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Philosophy and Ethics of Food

by Michiel Korthals

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Philosophy and Ethics of Food

By

Michiel Korthals

University of Wageningen, The Netherlands

Translator: Frans Kooymans

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FOREWORD

Hardly a day goes by that we do not hear about some scandal or problem related to agriculture and food: the risk of cancer from eating French fries, salmonella in chickens, dioxin in pigfeed, pesticide residues in organic chickens. Obesity has taken on epidemic proportions, experts call for a ban on junkfood. But at the same time, we also hear all sorts of positive reports from nutrition experts: a life free from illness, a medical food that prevents memory loss, a fatty substance that does not make us fat.

It is hard enough to grasp the exact implications of this news; it is even more difficult to penetrate to their ethical and philosophical core. Lots of conversations with friends and acquaintances, especially around generous tables, have helped me enormously in maturing my unripe thoughts. I have benefited greatly from the time that I spent with Hans Roelofsen and Reina Boelens; through their music they have taught me more about eating and living than anyone. Also the many hours spent with Paul and Diana Thompson, who received me with great hospitality during my sabbatical in the US and at other times, whetted my appetite for more. It was wonderful to touch on philosophic issues with Jozef Keulartz and Maartje Schermer; the same applies for Tsjalling Swierstra and Guy and Ineke Widdershoven. Avner de-Shalit kept putting me back on a libertarian train of thought. Athalya Brenner enabled me to see more than just the philosophical side of eating. With his enthusiasm, Matias Pasquali helped me cross troublesome barriers. Lawrence Busch, Jan Staman, and Peter Kenmore are each involved with food in their own unique way. And let me not forget the three Important Women: Manon, Roxanne, and Atie. At times they inspired me to such an extent that I was no longer sure whether a particular idea originated from them or from me; I just hope that I have inspired them in the same way.

From colleagues at Wageningen University, other universities, and the university of life I have learned much, such as from Jan Douwe van der Ploeg, Andrew Long, Paul Richards, Rudy Rabbinge, Hans van Trijp, Tini van Boekel, Henk van den Belt, Volkert Beekman, Marian Deblonde, Frans Brom, Hauke Brunkhorst, Ruth Chadwick, Gert-Jan Hageman, Vaughan Schlepp, Bram van der Vlugt, Joanneke Bekkenkamp, Bea Prijn, and Phoebe TheCat. My sincere thanks to each of them.

Michiel Korthals
July 2004

CHAPTER 1

GOOD FOOD, GOOD EATING, GOOD LIVING

Philosophy and food, do they go together? After all, isn't philosophy about the higher things in life, while food deals with lowly, everyday concerns? These are misconceptions. Eating and drinking are altogether essential elements of human life. When we eat, we connect to reality, to nature around us. What's more, it becomes part of us, we taste it and feel it. We renew our body by partaking of products from nature. Food issues have been ignored for too long by philosophy, for philosophy deals with the essential issues of human life. Food and philosophy belong together, like body and nature. That is why it is a serious oversight, a blind spot in the thinking of philosophers, that so few philosophies of nutrition have ever been published in the English-speaking world. So let's get to work!

Nutrition, food: what is it really? We consume food products: fruit, vegetables, meat, potatoes, you name it. All of these are products of nature that we produce, process, eat and drink, and make a part of ourselves. Our bodies convert products from nature like bread, cheese, wine, fish, and meat into good or bad thoughts, into heroic or cowardly actions. Every bite into a juicy apple converts this wondrous mixture of smell, color, and taste into flesh and blood. And possibly into amusing thoughts, smooth talk, a good laugh, or a kick in the ass. It does not sound at all odd to say that the sentences I am writing down here and now, is the omelet I feasted on this morning changed into words. Through nutrition, nature becomes human thoughts and actions. It is often said: you are what you eat, we are what we eat. What does that mean? Are the stories that I tell right here and now already contained in that omelet?

When I eat something exquisite, like caviar, people consider me an exquisite person. In that sense it is correct that you are what you eat. But when I eat the food that Pete Sampras or Martina Hingis eats, will that make me just a good a tennis player as they are? If I go on Pavarotti's diet, will I then become another Pavarotti? And if I eat what Eminem eats, does that make me Eminem? According to the cheese ad of Friends of the Earth, I will start mooing like a cow if I eat organic cheese. So if I eat inorganic cheese, will I then become a factory? Well, it's not as simple as that. Pavarotti's quiche does not contain his aria, the steak that Pete Sampras bolts down does not yet contain his hard returns. And there might well be a hair in the soup of William Shakespeare, but not his poems. It is more complicated; we are not always what we eat.

No doubt about it: good eating contributes to good living. If the one is below par, then the other suffers too. But good eating is getting more difficult all the time. Not so much because the direct taste of a food product causes problems, but because the way the product is made is getting more problematic all the time. Good eating is

problematic because food production has become problematic. And that makes good living much more difficult as well.

Food is a question of personal identity, which is in a real state of flux in the Western world. This is why food has been getting a prominent role in public debates.

Information about nutrition is likewise subject to dynamic changes. The information relates, for example, to the value of health claims about specific food products, or the quality of an eco-label, or the alleged pro-animal nature of a product. Since the sciences and technology behind these products change so quickly, knowledge-related issues, such as information gaps or access to information, receive a lot of attention.

A set of knowledge ethics that takes these issues seriously would have to address the fact that the concept of agriculture and nature that consumers have hardly corresponds with modern food production. Many people still believe that a pork chop comes from a freely rummaging little pig that is constantly petted on the head by a stubble-bearded farmer. When it turns out to be altogether different, they are astounded or even outraged.

Still, information about food, no matter how important, is not the decisive factor in the preferences of consumers. More important are the value choices that consumers make: their judgements about the obligations, values, facts, expectations, and price options that they see. Information and ethical considerations are inseparably linked in the choice for a specific eating style.

Society shows great interest in nutrition. In this study I will concentrate on the main philosophic issues. What stages does food go through before it enters our mouth? Was this food a living being first, like an animal or a plant, and what did those living organisms undergo? May we eat just anything? If so, how can we regulate those processes so that they lead to optimum animal welfare while at the same time producing optimum taste? The production of food also causes environmental pollution – does the fight against hunger have priority over the care of the environment? The care of the environment, animal welfare, and the quality of food should be in a certain harmony, but that is far from granted and hardly easy to achieve. These factors are not always in balance; rather, they are often in conflict with each other. A balance will thus need to be searched for.

But there are more factors. Many I have not even mentioned yet, such as the issue of global famine, the care for a farming class that is able to keep its head above water in a decent way, a fair trade system that does not throw up unnecessary barriers for newcomers or small market participants and that promotes good nutrition. These factors give the social meaning of nutrition a new dimension: food is about feasting and fasting, about plenty and famine. Famine continues to be a widespread phenomenon that violates human rights; it is absolutely a shame that nearly a billion people still suffer from hunger or malnutrition. At the same time, deliberate hunger and abundance are prevalent in the Western world. Both issues refer to the social and cultural aspects of food.

Scientific and technological developments also play an increasingly important role. Almost every bite that we take is determined by scientific developments, even when we think that we are simply eating a fresh apple. After all, for most people in

the Western world the choice to eat an apple is heavily impacted by the scientific information that apples are good for you. An extra difficulty is that scientific information is often contradictory, or that it relies on statistical probabilities that are difficult to translate into everyday certitudes.

All of these factors deserve attention, but it is the mix that is most important. In the land of food, ‘either or’ does not exist, only ‘both and’. The adequate measure of ‘both and’ serves as the starting point for a philosophical reflection.

1.1 How it all began

A starting point for food and nutrition is nature, with its abundance of living (biotic) elements, such as animals and plants, and non-living (abiotic) elements, such as water and air. Nature helps us to stay alive. And not only us human beings, but also all other living beings. Nature presents itself to us as a coherent whole. In nature, living beings are dependent on each other – each needs the other.

There are great differences among the numerous elements in nature. It is difficult to say which elements are essential to ensure that nature endures and which are not, why it is that some ecosystems continue to exist for ages, while others disappear after a short time. Experts speak of ecosystems and interaction. Add to that the changing of the seasons: new life in the spring, expressing itself in trees and plants coming into leaf, then dying in the fall. Growth means transition, new events occurring, all things changing all the time. But it means also dying.

Many people think that nature is one great dance party, where the dance partners must be on the same wavelength with each other. Otherwise things go wrong, with people stepping on each other’s toes or, even worse, a dance partner falling by the wayside. Sometimes it is a wild and savage dance, where the outcome is uncertain, and sometimes a quiet, intimate dance with beautiful effects. Bees produce honey and spread the pollen of plants; the leaves of trees provide shade to the animals in the field; the birds get rid of harmful insects; and plants benefit in turn from that. And consider the butterflies – they dance with the flowers.

But more often it looks like a fight, a continuous struggle. And among all those complex processes of nature we human beings need to gain a foothold. No human being is satisfied with merely the fruits of the field. To eat, we need to intervene, to work the land, weeding and watering it in a quiet and well-considered way. But sometimes we intervene in a very drastic way, killing plants or animals in order to enable other plants or animals, such as *homo sapiens*, to prosper. In other words, people are gardener or butcher, but often both. We may try to have that distasteful work, such as slaughtering, done by others – behind curtains, wherever possible, so that we do not see it –, but in essence we are all butchers. Butchers on behalf of life, to be sure; I will come back on this in the third theme. No delicacy flies into our mouth of itself; the land of plenty, with rivers of milk and honey, with streams of wine, does not exist.

Agriculture has around now since at least ten thousand years; hunting, gathering, and fishing much longer. Those activities imply that people learn certain skills and familiarize themselves with the characteristics and skills of other living beings in

their vicinity, such as deer and rabbits, or berries and mushrooms. Hunting, fishing and farming must be learned; working with nature does not come of itself. You need knowledge, which you acquire from your parents, your friends, at school.

Such knowledge is very local, based on local soil conditions and weather circumstances, on your own preferences and more.

To fish, you need to know how to catch a fish before you can eat it. A fish does not just fly into your mouth; something needs to be done first. You need to know what kind of bait attracts the fish, to know that some types of fish stay away from clear water, whereas they allow themselves to be caught in murky water. You need to know your way like a thief in the night, and sometimes you have to outsmart a fish with trickery and deceit. As a fisherman, you need to act fast, to strike suddenly.

With agriculture it is quite different. Agriculture does not have the quickness of fishing and hunting. It does not involve sudden action; it means building up something gradually. You need to look far ahead. Agriculture is a long-term investment; you need to allow long stretches of time to pass you by. While a fisherman or hunter must move around quickly, agriculture means being bound to a specific place, being tied to the land. After you have sown, it still takes long before you can harvest. And then you need to look ahead again, to the next harvest. Sometimes the land needs to be worked intensively, sometimes not.

A special feature of modern farming, at least in Europe, is that it is often a family business. Husband and wife, often along with children, work the land, sell their products, provide for the food supply. In the past, in feudal times until the mid-nineteenth century, family farms did not exist. Instead there were feudal gentlemen farmers, with bonded serfs who were seldom allowed to marry. In modern agriculture, however, all food that is produced is the result of a lengthy process of working the land and of cultivation and breeding. A major concern nowadays is whether that process meets our ethical standards

Agriculture is a long-term investment therefore, it means being tied to a specific place for a long time and anticipate. When you sow, it takes long before you can harvest, but you already need to consider the following harvest. So you must be able to count on your partner, on your husband or wife.

1.2 What is the matter with our food?

Since ancient times, food production leads to enormous utopian expectations; the Land of Milk and Honey got its name for good reasons. The search for the primal source of our food, which can satisfy all of our nourishment needs, is an age-old mythical impulse. Great promises and high expectations are associated with food science and technology. Tinkering with the raw materials of plants can produce wonderful things, can fulfil all of our desires, cure illnesses, give us a long and happy life. It can make us see better, improve our memory, stimulate our sexual potency and libido, and much more! On to the miracle plant!

Or is it a poison plant that science gives us? Not a day goes by that we are not confronted with negative issues related to nutrition, such as poison in food, animal diseases, or lack of animal welfare. There is even a special name for these problems:

consumer concerns. The four biggest issues related to consumer concerns are animal welfare, health, sustainability, and fair trade. It is not surprising that people have different ideas about these themes. Each culture has its own definition of animal welfare, which in turn differs per animal. There are many views about health.

Sustainability is a controversial subject; does it cover biodiversity, for example? Fair trade focuses on the right of farmers to an acceptable income level, but the question is: what farmers?

The concrete reason for this book is indeed a negative one: the disturbing observation that something is fundamentally wrong with our entire food system. The gap between consumers and producers, scientific developments that we are losing control of, impotent governments, the boundless greed of large food and agriculture companies, apathetic consumers: these are just a few of the problems that, unfortunately, I cannot solve, but that I will shed my light upon. The starting premise is that food is a great good that must be enjoyed, but that it deserves far more attention and care than it now gets from consumers, producers, governments, scientists, and technologists.

1.3 The setup of this book

This book is divided into two parts. The first part presents an overview of reflections about nutrition during the course of time, and starting points are developed for a modern philosophy and ethics of nutrition. The second part deals with the principal themes of the philosophy and ethics of nutrition, such as the question of the justification of eating meat, the acceptability of new technologies, the globalization of food production, and the personal responsibility of consumers.

First I will give a brief historical overview of the opinions of philosophers about nutrition. That includes a discussion of their commentary – generally a strictly academic approach – that evidences a rather one-sided view of nutrition: only its significance for the individual is emphasized, while processing and production aspects are ignored. Next I make a personal start with a philosophy of nutrition, wherein I also examine the current situation, the modern and postmodern lifestyles related to food, and the social significance of nutrition. Food binds people, but it also repels them. Some people may be crazy about bird's nests or grasshoppers and enjoy the company of people who share this liking. Others detest hamburgers and want to have nothing to do with people who go to McDonald's for an in-between snack. People who like the same food enjoy eating together; the common meal may involve grasshopper stew, hamburgers or chop suey.

Next I go into the deeper philosophic essence of the subject, the ethical considerations and the liberal and deliberative ethics and politics of nutrition. I will sail my own course between two opposite positions: on the one hand, the view that consumers must make up their own minds and that public policy must be restricted to setting the limiting conditions (such as safety and health standards), thus allowing technological progress to have a free hand; on the other hand, the view that appeals to norms and standards that are culturally determined and to the role of nutrition as a determinant of specific identity. The starting point in my deliberative ethical view is

respect for the cultural embedment of individuals, without locking them up inside this embedment. This deliberative ethic I then concretize through the key issue for food ethics: how to live with ethical dilemmas.

In the second part I discuss the crucial questions such as: may we eat everything? This deals in particular with the consumption of animals. May we eat animals, including dogs and cats? And why don't we eat human beings? I go into vegetarianism and show that our position towards plants, cows, chickens, and pigs turns out to vary depending on how those animals are treated. Next I discuss recent scientific and technological developments, such as genetically modified food, health food, and genomics. Also, I plead for the coordination of technological and normative developments. Globalization gets much attention, and the same applies to the possibilities of a new, problem-oriented, agroproduction system and the related role and responsibility of consumers, wealth, and morals. Finally, I present a view of the future of nutrition.

CHAPTER 2

WHAT DO PHILOSOPHERS SAY ABOUT NUTRITION? A BRIEF HISTORY

Hannah, Karl, Jean-Jacques, and Immanuel, all friends, have finally succeeded in organizing a joint meal. Karl (Marx) lies on his couch, which is pushed right next to the table since he cannot sit up because of his hemorrhoids. He chews on some grapes and starts the conversation by saying that these simple fruits were picked by exploited farm workers. Jean-Jacques (Rousseau) feels called upon to respond and starts into a eulogy about the life, so close to nature, of shepherd boys and girls. Meanwhile, Friedrich (Nietzsche), who has been hired as house servant, presents a roasted meat dish to Hannah (Arendt) and Immanuel (Kant); he refuses to serve Jean-Jacques his vegetarian spinach quiche because, as he stubbornly insists, that leads to addiction. Jean-Jacques, however, claims that a quiche prepared with lots of milk and cheese will make you a morally superior person. Hannah becomes angry at these fanatic adherents of functional food, because, as she says, food must simply be consumed to be able to proceed to political action. Immanuel agrees with her by pointing out the universal relationship between independence and the personal choice of your food, regardless of what the doctor says.

In this chapter I will describe several trends and shifts in the philosophic thinking about food and nutrition. These will illustrate that earlier generations also wrestled with ethical questions about food. Substantive philosophic studies about nutrition and food ethics are scarce, yet almost every philosopher has said something about food (and agriculture). For ethical considerations, all sorts of studies of a more ideological nature are likewise relevant.

A notable aspect is that the philosophical reflections about production and consumption of food have led quite separate ways, but that they meet at the end. There are statements and reflections about agriculture and about the meaning of agriculture for the individual person, for society, and for the relationship between human beings and nature. On the other hand, there are numerous thoughts about the meaning of the consumption of food, in particular about its moral effects. But in spite of their varied approach, the separate histories of these forms of reflection, that about production and that about consumption, culminate in the nineteenth century in the exaltation of nature and naturalness. Processed food is increasingly viewed as unhealthy or morally unacceptable. Here lies the origin of modern advertising slogans that are linked to “natural” food. At the same time, it is the basis of the relative neglect of agriculture and the domestication of animals in the environmental

philosophy and animal ethics of the 1970s and 1980s, as Paul B. Thompson has demonstrated (Thompson, 1994).

The philosophical reflections thus lead to an ostensible paradox: nature is increasingly being idealized, while the morally harmful character of components of nature is also pointed out more and more. In other words, the concept of nature becomes increasingly selective; processes and entities that were first considered part of nature are being disposed of as unnatural. The background of this paradox is that philosophers wish to reserve the concept of nature for everything that is healthy (morally and physically), while they clearly realize that this is not always the case. Philosophers are stubborn. They will not easily give up the concept of nature – in the sense of everything that is healthy and good –, not even when it turns out to be untenable. At the end of this chapter I will demonstrate the conclusion that in my opinion must be drawn from this.

2.1 Production

We must start with the ancient Greeks, for they wrote the very first cookbooks. That by Archestratus (around 330 B.C., a younger contemporary of Xenophon) has survived the ages, and his recipes excel in simplicity and taste (just like the modern Greek kitchen). The symposia, the eating and drinking feasts for men, are especially occasions for the Greeks to converse with friends (Dalby 1996). Cooking and agriculture are regarded as inferior activities, fully in line with the Greek disdain for manual labor (which was carried out by women and slaves). Plato (428-347 B.C.) cites the following typical dialogue in *Gorgias*:

SOCRATES: Then ask me what kind of art cookery is.
 POLUS: I will. What art is cookery?
 SOCRATES: It is no art, Polus.
 POLUS: Then what is it? Tell me.
 SOCRATES: In my opinion it is a kind of routine.
 POLUS: What kind of routine?
 SOCRATES: One that produces gratification and pleasure, Polus.

On the other hand, Roman philosophers and poets, such as Lucretius (around 50 B.C.) in *On Nature* and Virgil (70-19 B.C.) in *Georgica* (The farming profession), extolled the hard but also fruitful life dedicated to agriculture. They are full of praise about the numerous skills that farmers must possess in order to produce good and tasty products such as olives, bread, honey, fruit, and meat. These treatises served as guides both in the Middle Ages and later for further reflections on the social and ethical meaning of the farming profession and food production.

Especially in the seventeenth and eighteenth centuries, a sizeable number of treatises appeared – in the context of the physiocratic view about the major significance of farming – that glorify the working of the land and food production as an important economic and political good. The social meaning of agriculture was

thus given a new accent, a political one. For the rest, however, philosophy is not interested: a great silence descends on agriculture and on food.

In other cultural fields, such as painting and poetry, much attention is given at this time to the countryside and its products. Well-known seventeenth-century painters such as Jacob van Ruisdael, Joachim Beuckeleer, Jan Davidszn. de Heem, and Carla Peeters produced the most beautiful paintings in the Virgilian tradition of the glorification of country life and its products. But in philosophy we find this theme only far from Europe, in the United States that are just appearing on the scene.

Thomas Jefferson (1743-1826) counts as one of the principal 'agrarian pragmatists', who elevated the role of the farmer to supporting pillar of modern democracy. According to Jefferson, the farmer who works the land is, through his close relationship with nature and his focus on self-reliance, the perfect icon of a society that is based on 'freedom and the pursuit of happiness': the recently established United States of America (the name Georgia reflects this.) Long-term investments in land, which are essential for agriculture, imply that the independent farming class has a deep-rooted interest in a stable democracy that can firmly withstand the storms of short-term trends that are typical of industrial societies. Knowledge acquisition plays an important role in this, according to Jefferson: "Science never appears so beautiful or any use of it so engaging as those of agriculture and domestic economy." (Thompson, 2000)

Certain features of this agrarian pragmatism can nowadays still be found extensively in the *Family Farm* movement, the back-to-nature movement, biological-dynamic or organic organizations, and the recent Italian slow-food movement.

In Europe, this current is especially well represented in literature. Tolstoy's fascinating novel *Anna Karenina* (originally 1875-1877) can be read as a lengthy plea for a direct, spontaneous relationship with nature. The fateful life of Anna has its basis in attempts to establish an industrial society that is segregated from the working of the land. By having Anna throw herself in front of a moving train, Tolstoy indicates that this symbol of technical and scientific Western civilization ultimately leads to suicide. His other heroes, especially Lewin and Kitty, symbolize the positive relationship with the soil and the uncomplicated production of food. He has Lewin meditate as follows in part 5:

'It seemed to him that in a normal development of wealth in a state all these phenomena would arise only when a considerable amount of labor had been put into agriculture, when it had come under regular, or at least definite, conditions; that the wealth of a country ought to increase proportionally, and especially in such a way that other sources of wealth should not outstrip agriculture; that in harmony with a certain stage of agriculture there should be means of communication corresponding to it, and that in our unsettled condition of the land, railways, called into being by political and not by economic needs, were premature, and, instead of promoting agriculture, as was expected of them, they were competing with agriculture and promoting the development of the manufacturing and banking industries, and so

arresting its progress; and that (...) these developments had only done harm with us, by throwing into the background the chief question calling for solution, that of the modernization of agriculture.’

The much-read Dutch author Frederik van Eeden (1860-1932) maintained similar views about agriculture. At his Walden colony in Bussum he tried to put this thinking into practice: writers, painters, and other artists had to work the land with their hands and bake their daily bread. Van Eeden introduced himself at lectures as follows: “You may have been told that I am a weird fellow, who has become doctor and farmer, with the idea of reforming the world.” In his diary he writes: “Enjoyed hoeing this morning. If this occupation were carefree, as it obviously should become, proceeding of itself through order and constancy and compensating itself easily, then no better life on earth would be conceivable.” (Fontijn, 1990, p. 428, 422)

The recently published, popular book *How God Disappeared from Jorwerd* by Geert Mak (2000) describes in a nostalgic way the destruction of the old farmer class and the yuppification of the countryside; it explicitly mentions *Anna Karenina* as an important source of inspiration (Mak 1996, p. 173). Mak’s book is not only about the Frisian village of Jorwerd, but also about the destruction of agrarian culture as such, which according to the author is occurring across the entire world. The disappearance of God is exemplary for processes of modernization and industrialization of farming in India, South America, or Africa. Mak is clearly captivated by the culture of the countryside. He keeps pointing to its many positive aspects, such as the mutual solidarity and readiness to lend a helping hand, the openness, the quiet, the autonomy, in particular regarding the personal production of goods such as food and clothing. The city is inhabited only by noisy consumers who pass by each other restlessly, on their way from one hype to the next, without any contact with each other.

With Karl Marx (1818-1883), on the other hand, a current gained momentum in the nineteenth century that takes a more ambivalent position toward agriculture and food products. Marx turns against agriculture in every possible way: he contrasts its narrow-mindedness, slave labor, and low production with industrial production. He regards farmers like a ‘bag of potatoes’ that is nearly impossible to get any movement in. If they are politically active at all, then, because of their attachment to a small plot of land, they support the conservative forces.

The struggle between Marxism and farmers (to express it euphemistically, for both the Russian and the Chinese revolution were responsible for the elimination of especially farmers) is a result of the fact that Marx presents industrial and systematic production as an example to agriculture (Korthals, 1986). Labor, collective transformation of nature, and the ‘metabolism between people and nature’ are such central ideas with Marx that the intensive, caring process of tilling the land, which is characteristic of agriculture, is portrayed as a primal and primitive phase.

Nonetheless, Marx wrote very idyllic passages, especially in his early works, about the simple pre-agrarian joys of ‘fishing in the morning, hunting in the afternoon, and being a critic at night’. The visions of enjoying nature largely disappear in his later work, but they did contribute to the general neglect – contempt

even – of the processing of nature that is characteristic of agriculture and of food production.

2.2 Consumption

Reflections about food consumption nearly always have a focus that is very much directed at the individual, because they are generally embedded in the pursuit of individual perfection (be it religious or otherwise; cf. Zwart, 2000). They do not deal with cooking and the preparation of meals but with the moral aspects and the effects on health of food intake. Plato sounds the praises of wine (*Laws* 666b, around 360 B.C.), which relieves the burden of old age:

‘Let us enact a law that, firstly, children under the age of eighteen may not touch wine at all, and instruct that it is wrong to throw fire on fire, neither in the body nor in the spirit, and thus prevent that they become excited too fast. Secondly, let us decree that young men under the age of thirty may drink wine occasionally, but that they must refrain from drunkenness and heavy drinking. But when a man has reached the age of forty, he may attend the communal drinking feasts and call upon Dionysos, above all other gods, beseeching him to be present at the ritual (that is also the leisure time) of the elderly, that he gave to mankind to combat the depressions of old age, so that we human beings may relive our youth, and that the mood of our souls may lose its hardness through the obliterating effect of care and become softer and more pleasant.’

Hippocrates lays the foundation for functional or health nutrition: ‘Let your food be your first medicine’, he recommends in 337 B.C. Extremely fruitful are the reflections of Epicurus (341-270 B.C.) about eating and lifestyle. Enjoying life is pre-eminent to him – but moderately, considering the negative long-term effects of excess. A famous saying of him is: ‘The wise man does not choose the largest quantity of food but the best food.’ His house and garden were open to friends, and the meals in particular were an important element. These were not orgies: ‘Before you eat or drink anything, pay attention rather to whom you eat or drink with than to what you eat or drink, for eating without friends is like the life of a wolf or a lion.’ (*The Essential Epicurus*, 1993) He was one of the few to see the systematic link between food and social contacts. The group of philosophers from the second and third century A.D., whose conversations are recorded in *The Deipnosophists* (The scholars at the table), claims: ‘Every study that is led by the principles of nature derives its ultimate goal from the complete satisfaction of the stomach.’ (vii, 11).

Foucault has shown in his extensive writings that the Greeks were interested in the relationship between food and health, but not through analysis of the ingredients: their interest lay in the relationship between food and climate, the seasons, humidity, and so forth (Foucault 1984). You are what you eat: this old saying can be found with nearly every philosopher. Foucault coins the term dietetics for this.

In *La nouvelle Héloïse*, Jean-Jacques Rousseau (1712-1778) had worked out this concept. He shows in detail how the European nations – France, Italy, Germany – came about on the basis of culturally determined eating habits. He pursues this idea in *Confessions* by speculating about the possibility of improving the character of people in a moral sense through the use of specially selected foods. Because of his miserable youth and his obsession with the mother figure and women's breasts (during his entire life, Rousseau was in search of an older woman who would cherish and admire him, be a mother to him), milk and dairy products are, he claims, the best nutrition to produce a high moral character (Onfray, 1989).

The focus of philosophers on the strictly individual significance of consumption is narrowed further by their views about the status of the senses, such as smell, taste, and sight. From the seventeenth century onwards these are disparagingly called 'secondary'. In contrast, properties that can be expressed in mathematical terms – size, weight, speed – are classified among the positive, primary characteristics of objects. Galilei (1564-1642) is one of the first to deny all reality to the taste organs and the related senses, such as nose and mouth. In *De Motu* (On movement, p. 48) he claims:

‘As soon as I form a conception of a material or corporeal substance, I simultaneously feel the necessity of conceiving that it has boundaries or some shape or other; that relative to others it is great or small; that it is in this or that place, in this or that time; that it is in motion or rest; that it touches, or does not touch, another body; that it is unique, rare, or common; nor can I by any act of imagination disjoin it from these qualities. But I do not find myself absolutely compelled to apprehend it as necessarily accompanied by such conditions as that it must be white or red, bitter or sweet, sonorous or silent, smelling sweetly or disagreeably; and if the sense had not pointed out these qualities, language and imagination alone would never have arrived at them. Therefore I think that these tastes, smell, colors, etc. with regard to these objects in which they appear to reside are nothing more than mere names. They exist only in the sensitive body (...). I do not believe that there exists anything in external bodies for exciting tastes, smells, and sounds etc. except size, shape, quantity, and motion.’

Regardless of whether taste, smell, and color are mere names, the fact is that Galilei enjoyed good food. He sent his daughters all kinds of delicacies, in particular small birds, a delicacy that many Italians nowadays still do not scorn, despite the protests of bird lovers in Northern Europe. His daughter Maria Celeste wrote him from her convent in Sienna the following charming story of the four stolen thrushes, which shows the care that Galilei and his family members devoted to meals:

‘Inside (the basket) were twelve thrushes: the additional four, which would have completed the number you state in your letter, Sire, must have been liberated by some charming little kitten who thought of tasting them ahead of us, because they were not there, and the cloth cover had a large hole in it.

How fortunate that the gray partridges and woodcocks were at the bottom, one of which and two thrushes I gave to the sick girl, to her great joy, and she thanks you, Sire. I sent another gift, also in the form of two thrushes, to Signor Rondinelli, and the remainder we enjoyed with our friends.’ (Sobel, 1999, p. 353)

To Galilei, taste is a sort of transcendental condition. Its right of existence might be called into doubt when thinking out loud in a reflective way, but, in daily life, taste demands its own place and interest.

How different this is with Newton (who was born in the year that Galilei died), that other seventeenth-century thinker who likewise contributed much to the inclusion of sensual capacities under the ‘secondary qualities’. Steven Shapin describes an event that shows how little attention the English scientist paid to food. Newton had invited a friend for dinner, but when this friend arrived, Newton was still at work and had him wait in the dining room. The friend saw the steaming plates with chicken and got so hungry that he ate the entire dish. When Newton finally arrived and saw the empty plates and the chewed bones, he remarked: ‘Ah, how absent-minded we philosophers are. I honestly thought that I had not yet dined.’ (Shapin, 1998, pp. 21-50)

The philosophical reflections of modern times ignore the cultural and social aspects of eating even more. Few philosophers contradict the famous saying, ‘Taste cannot be disputed’ (*De gustibus non est disputandum*). Kant’s theory about taste preferences with regard to food starts out from the purely subjective: ‘Preferences and distaste of food are not comprised by our capacities to know the object and cannot be attributed to the external objects.’ While, according to Kant (1724-1804), opinions about beauty can be universalized and have general validity with regard to others, this is not the case with food. In his *Critique of Judgement* he writes in § 7, called ‘Comparison of the beautiful with the agreeable and the good by means of the above characteristic’.

As regards the agreeable, every one concedes that his judgement, which he bases on a private feeling, and in which he declares that an object pleases him, is restricted merely to himself personally. Thus he does not take it amiss if, when he says that Canary-wine is agreeable, another corrects the expression and reminds him that he ought to say: “It is agreeable to me.” This applies not only to the taste of the tongue, the palate, and the throat, but to what may with any one be agreeable to eye or ear. A violet colour is to one soft and lovely: to another dull and faded. One man likes the tone of wind instruments, another prefers that of string instruments. To quarrel over such points with the idea of condemning another’s judgement as incorrect when it differs from our own, as if the opposition between the two judgements were logical, would be folly. With the agreeable, therefore, the axiom holds good: Every one has his own taste (that of sense). The beautiful stands on quite a different footing

Also in the opposite camp, with John Stuart Mill (1806-1873), the founder of utilitarianism, opinions about taste are viewed as personal opinions that have

relevance in the private domain but lack any social meaning. Only when the public order suffers from eating or drinking habits (as with a drunken police officer) does the government need to take action (Mill, 1975, p. 92, 123 (*On Liberty*)); for the rest, eating habits must be left altogether to personal choice.

In the nineteenth century, it is especially Friedrich Nietzsche who elaborates on this individual approach, aimed exclusively at the moral effect of the intake of food. Nietzsche focuses in particular on the potentially weakening or strengthening effect of food for the strong individual who acts independently. For that reason, Nietzsche is especially critical of vegetarianism, which he considers ‘nonsense’ and leading to addiction:

‘But vegetarianism also has subtler effects that include ways of thinking and feelings that have narcotic effects. This agrees with the fact that those who promote narcotic ways of thinking and feelings, like some Indian gurus, praise a diet that is entirely vegetarian and would like to impose that as a law upon the masses. In this way they want to create and increase the need that they are in a position to satisfy.’ (Nietzsche, 1974)

Therefore, a life strictly consisting of fruit and vegetables has negative effects on the strong individual. The same applies, according to Nietzsche, to rice, which leads to opium addiction, and to potatoes, which lead to alcohol addiction.

Contrary to Nietzsche, the nineteenth-century thinker Feuerbach (1804-1872) reassesses the corporal aspect and the enjoyment of the common meal in his discussion – or, better put, his exposure – of Christianity and other religions. Unfortunately, his thinking has been largely snowed under by the quick way in which Marx and Engels partially confiscated it. Feuerbach, however, shows much more appreciation for culture, nutrition, and agriculture than this twosome. Divine worship ultimately rests, according to Feuerbach, on projections of human possibilities on nature and on humankind itself. Eating lies at the basis of religions in countless ways, in particular of Christianity:

‘Eating and drinking are the mystery of the Last Supper. Eating and drinking as such are indeed a religious act, or should be such at any rate. (...) But enjoyment of life also includes the enjoyment of food and drink. If life is indeed sacred, then eating and drinking must also be sacred. Is this the confession of an irreligious person? This irreligion, however, is the analyzed, explicated, honestly expressed secret of religion itself. All secrets of religion culminate in the secret of eternal salvation. But eternal salvation is only the salvation that is stripped of the real boundaries.’ (Feuerbach, 1976, pp. 512, 652)

Feuerbach’s position is an exception, however. Most philosophical reflections neglect the social enjoyment of eating.

2.3 Conclusion

The two philosophical types of reflection about production and consumption combined form a strange paradox: on the one hand, unspoiled nature is glorified and contrasted with nature that is processed while, on the other hand, there is a growing emphasis on the negative effects of certain products of nature. The moralizing approach dominates. None of the philosophers that have been discussed give any priority to the enjoyment of food; food may only be consumed when it is linked to a moral effort (cf. Tefler, 1996). Furthermore, the social meaning of agriculture is increasingly abandoned and contrasted with the personal experience of unspoiled nature.

The result is that the treatment of nature with a view to ensuring an adequate food supply and the related ethical considerations are completely ignored. Even the simple fact that totally unprocessed foods do not exist at all, and that every product, whether it is a pear or a trout, is the result of the treatment of nature, is disregarded.

In my opinion, the philosophical reflections that have been discussed evidence an increasing gap between the production and consumption of food (see chapters 4 and 10), so that modern – mostly male – philosophers with their armchair approach hardly get insight into the exact course of events involved in the many transformation processes that take place before food appears on the table and can be eaten. With regard to the concept of nature, this means that nature cannot be used as a constructive category. In other words, it cannot be regarded as a sort of basis, criterion, or foundation of healthy food.

Nature is a bounded concept that stands for an ideal of virginity or purity; it has nothing to do with something that is either processed or unprocessed. Something can be unspoiled and pure while at the same time processed. Take, for example, the performance of a piece of music. It may appear altogether pure or spontaneous, even though years of study and practice have clearly preceded it. With foods and recipes the same applies. A piece of bread or a pear looks delicious, unspoiled, natural in every way – but how much processing lies behind it? Naturalness in the sense of not touched by humans cannot be the criterion for healthy and good food.

For a more adequate approach to nutrition than the traditionally philosophical, we should look at other disciplines, such as sociology and psychology. In these disciplines important empirical food studies have appeared in the past thirty years, that examine the social dimensions of production and consumption in a penetrating way. These studies take into account that consumption also involves the purchase, cooking, and common enjoyment of food. The consumer, in other words, is someone who goes shopping and who has ideas, opinions, and desires in connection with this.

CHAPTER 3

TOWARD A PHILOSOPHY OF NUTRITION

*Rosita, Titia, Robert, Antonio, and Nacha are feasting on the delicious quail in roseleaf sauce. Only Rosita knows that the sauce contains a very special, altogether functional ingredient: her exquisitely prepared love potion, intended for Antonio, whom she has been in love with for years. It is not a drug like the ordinary charlatan potions; instead, this promises immediate effect. The main ingredient is her plentiful tears that landed in the sauce while the quails were being cooked. Love fills the five friends around the table, and they look at each other with hot faces, intense feelings, and strong desires. Will Rosita succeed in winning Antonio for herself? Things turn out differently: Antonio looks first at Nacha, and Rosita's tears cause him to fall directly in love with her. Rosita forgets to look at Antonio when she first tastes the sauce and happens to look at Robert, but he is eagerly looking at Titia. What a functional sauce! (Adapted from: Laura Esquirel, *Like Water for Chocolate*, 1995.)*

3.1 Esthetic, social, cultural, and moral functions of food

The production and consumption of food take place within an extensive network of production processes and social links. Because the consumption of food is such an everyday and repeated occurrence, it is heavily associated by all sorts of meanings and functions. Furthermore, the consumption of food is a quite intimate, daily happening that is difficult for outsiders to observe directly. It has great emotional significance: meals belong to the extremely vulnerable and valued meeting points where informal relationships are intensified. The consumption of food is also a focal point at formal occasions, such as the dinners of political authorities or company managers.

Food itself is also very closely linked to emotional meanings. Take taboos, for example. Names that we give to groups or to people of a specific nationality often refer to their alleged food: the French are called frogs, Germans are krauts, the Dutch cheeseheads. Medicines are not associated with these properties; for that reason alone the two can never be identified with each other. A central starting point of current food studies is the following remark by Barbara Fischer in *Foodculture: Tasting Identities and Geographies in Art* (2000): food appears as 'a matrix in which innumerable aspects of life and lived reality come to intersect, including the mixing, congealing, and dispersing of a sense of national, cultural, and personal identity' (p. 26; cf. Counihan and Van Esterik, 1997; Jobse-Van Putten, 1996).

In food studies a distinction is made between the physiological, esthetic, communicative, and social function, the cultural function, and the moral function.

The food we eat says something about our taste (esthetic meaning), it has a function in the startup and maintenance of social integration in the group (the meal as communication – social meaning), it serves to identify status differences and differentiation between groups (cultural meaning). Lastly, what you eat tells something about the kind of person you are, about the type of life you wish to lead, and of course about the fair or unfair distribution of wealth (moral meaning). The physiological function relates to strict survival, with the body's minimal needs in order to maintain itself.

As to the esthetic function, this was largely neglected by the philosophers that I discussed earlier, as they focused instead on the moral meaning of food; also many modern-day consumers do not regard the esthetic as the prime aspect. In some eating cultures, such as the dominant eating culture in the United States, food is considered mainly for its health qualities and not as a product to be enjoyed. The influence of the food sciences is a reason for this, but most likely a deep-rooted puritanism is in turn the principal factor for the success of this influence.

However, taste cannot be suppressed altogether. In other cultures, such as the French and Italian kitchen, the taste function is dominant even. Social food studies have supplied a flood of data and theories to show that taste is a socially determined factor that is dependent on the place and position of the consumer in the social network (Bourdieu 1979; Douglas 1996).

The social function means that individuals come together and confirm their mutual relationships during meals. Food is part of the cultural lifestyle in which people grow up, from which they may later distance themselves (or not) and derive their identity. Societies without such cultural lifestyles and formal and informal relationships are intolerable.

Both the quantity and quality of food products serves as a means of communication. The quantity, for example, can indicate how hospitable someone is and to what extent others can count on him or her in times of food scarcity and other needs. Large food quantities imply a hospitable, open, and uncomplicated meal structure, such as in the traditional American kitchen, where in principle anyone can sit down at table at any time of the day. With small quantities, cooking can be very exquisite, fewer people may be invited, and the sequence of courses is more regulated (Douglas 1984). The French kitchen is a good example of this. Eating much or little can have the same function. Eating much can be a sign that you appreciate the hospitality and are prepared to do a favor in return. That is why diet rules by nutrition specialists in the United States are ignored so often. An altogether different example is the Japanese rice culture, which confirms formal and hierarchical relationships and is an expression of such relationships (Ohnuki-Tierney 1993; Visser 1986). A dinner with all sorts of rice products, including sake or rice wine, can be a formal theatrical performance in which positions are sounded out or confirmed.

The differentiating function involves groups distinguishing themselves from each other through the consumption of specific foods and avoidance of others. This function is all too often forgotten by overenthusiastic 'foodies', who think that eating together is already enough to unite people. That is what Mintz claims (1996,

p. 97): 'The way bread tastes, the way dough is prepared and baked, unites people culturally.'

But the taste of bread and the method of baking also serves to differentiate people from each other. Bourdieu (1979) was the first to analyze this differentiating aspect. In a less stratified, more egalitarian society it may be less developed, but in societies with significant differences in rank and social class it can lead to an enormous variation in cuisines. New food products, where it is yet unclear how these can be integrated in the existing nutritional views, often lead to great cultural controversies.

As an example, the commercial rise of ice cream at the beginning of the twentieth century led to a significant counteroffensive by conservative groups, because ice cream was claimed to lead to a decline in sexual morality. It gave religious groups a chance to show that they would not be guilty of a lessening of morals. The American name 'sundae' for a specific type of ice cream is a corruption of the original satirically intended name 'sunday': certainly on Sunday no ice cream was allowed to be eaten (Visser 1986, p. 308).

Similar objections were raised by religious groups against potatoes and tobacco, 'newfangled' food products that are mentioned nowhere in the Bible; today they are still scorned by the hard core in organic agriculture. Sugar was the subject of controversies in the nineteenth century in connection with the protests by the antislavery movement, which pointed out that sugar was the result of slave labor. 'Eating sugar means eating negroes' was the slogan (Mintz 1996).

Consumer concerns – the modern name for ethical concerns about production processes in nutrition have always been around. The paradox of the desire for differentiation is that a trend allows people in the early period to distinguish themselves, but that others will adopt the trend if it is successful. In that way, the elitist bohemian culture of the romantic poets of the nineteenth century, with their great emphasis on outdoor hiking, traveling, and culinary adventures, became a more or less general trend in the twentieth century (cf. Campbell 1987; Morton 1995).

The preparation and purchase of food is yet another subject. A rehabilitation is taking place, in the recently established discipline of the sociology of consumption, of the activities involved in shopping at markets and in stores. The scathing criticism in the 1960s by neo-Marxist writers such as Herbert Marcuse is no more. That criticism had characterized the shopping consumer as the truly one-dimensional human being, who had sold his soul to material goods, who had no interest in social relationships. 'People recognize themselves in their commodities; they find their soul in automobiles, hi-fi sets, split-level homes, kitchen equipment.' (cf. Korthals 1986)

The sociology of consumption arrives, however, at quite different results. Its findings show that considerations of care are foremost with consumers in their buying behavior (Miller 1998). Miller shows convincingly that shopping is a sort of ritual practice, which is closely tied to the care for others. Just like shopping, cooking a meal is generally the work of women (although that is becoming less so in the Western world).

Nutrition is therefore a gender matter *par excellence*, and the neglect of nutrition as an object of research is clearly associated with the dominance of traditionally male interests in science (see Curtin and Heldke, 1992; Flandrin and Montanari, 1996).

But the link between technological developments and the preparation of meals must not be underestimated: such developments have great impact on *what* is cooked and *how*. The limited kitchen space, with a simple open fire, explains why soup plays such an important role in most agrarian eating cultures: it can simmer on a low fire for a long period (cf. Jobse-van Putten, 1995; Mennell, 1995). In our day, the availability of freezers and microwave ovens plays a key role in the preference for certain types of fastfood. And that corresponds well with the increasing number of women with regular jobs, who no longer take the time to cook at home.

We cannot stop here, because the production processes must also be considered. Food does not come automatically; it takes work. Nature, in particular living beings, must be adapted before we can partake of it. Everything that changes on the consumer side – often referred to as the output side – has immediate consequences for the input side. If consumers no longer want to eat a particular type of food, the farmer ultimately feels the effects of that, and, before that, the supermarket and the grocer.

I will not go in detail on the ethical issues involved in the production chain; see the following chapters for that. Instead I wish to touch on two crucial issues. Firstly, the way animals are treated in the cattle industry is a source of constant worry, because their well-being is incessantly and systematically in danger (see Mepham, 1996; Rollin, 1995; Korthals, 2002). High-tech food, such as functional food, means the production of meat with lower fat content. In some cases that leads to an unacceptable lessening of the well-being of cows, sheep, goats, and pigs, because it often leads to weakened bones and involves the injection of growth hormones such as BST (Gonyou, 1999, pp. 191-202).

Secondly, for the bulk of the population in third-world countries, agriculture is not only the principal source of subsistence but also of identity. Such groups are thus extremely vulnerable – and the way world trade is organized now, as well as the trend toward processed foods, does not make their position any better (Thompson 1997). It is no longer cocoa, rice, or soy beans that is asked, but cocoa without Omega-6 fats, or rice with certain vitamin supplements, or soy beans with a higher calcium content.

The relationship between production and consumption must be in balance. If production weighs too heavily, then productivism gets the upper hand, with the food system becoming dominated by profit, instrumental action, and economic interests. If consumption dominates, that leads to the rise of consumerism (consumption as the gratification of every whim), without any consideration being given to the specific needs of living material and to production processes.

These considerations make clear that neither a strictly economic, nor a strictly functional explanation of food production and consumption makes sense. Individual persons choose their food not purely on the basis of economic considerations, but also not strictly on the basis of the nutritional value needed for survival, of health, or of any other personal function. Food is embedded in cultural meanings that

individuals attach to nature, both in a moral or wider normative sense and in a symbolic sense. A particular type of food stands for an ideal that must be pursued, and the action establishes a norm for (and symbolizes) hope, love, death, or any other drama. These normative and symbolic meanings are incorporated in the techniques that are used to adapt nature in order to obtain food, in the techniques used to cook meals, and in the meals themselves (cf. Eder, 1988).

3.2 *You are not what you eat*

Food contributes to meanings and is embedded in meanings; neither aspect should be ignored. In recent food studies I sometimes come across views that forget both aspects and assume that food is the all-encompassing raw material from which human identity is constructed. You are what you eat: this maxim is all too often taken quite literally. Heldke and Grossvenor, for example, state that nutrition determines the total person, that people are what they eat in every respect: 'Food changes into blood, blood into cells, cells into energy, which in turn changes into life; and since your life is imagination, creativity, love, and seriousness, food is life.' (in Curtin and Heldke, 1992, pp. 296 and 219)

The Italian philosopher Francesca Rigotti states in her *Philosophie der Küche, Kleine Kritik der kulinarischen Vernunft* (2001) that 'the word is eating, and knowledge is food. Knowing is eating, writing is cooking. For the imaginary, words and eating are one.' Through creative analogies between thinking and cooking, she can explain why some philosophers have said meaningful things without being cooks – and why cooks, without being philosophers, are nonetheless able to come up with profound thoughts. For example, analysis is derived, she says, from the cutting of ingredients: combining aspects into a greater whole. Synthesis is nothing other than the adding and stirring of all sorts of ingredients in a large pan of soup being converted into thinking.

This food determinism is found in certain themes in art, such as the idea of the love potion. The 1832 opera *L'Elisir d'Amore* by Giuseppe Donizetti is built up around this old concept. The potion appears to work and the main character calls out in ecstasy: 'What a rare and perfect elixir – Oh, if I just knew the recipe, or who brews it!' In other myths, stories, songs, and operas, the life potion that enables you to live eternally or at least very long is the central theme.

In the opera *The Macropoulos Case* by Leoš Janáček (1923), the main character has drunk a potion that gives her eternal life. The entire opera is about its negative effects, such as loneliness and indifference. This is tantamount to food determinism, the idea that food determines your life, whether for the good or the bad. As far as I have been able to determine, Carl Friedrich van Rumohr was the first, in *Geist der Kochkunst* (1822), to claim: 'The human being is nothing other than what he eats' (*Der Mensch ist nichts anderes als er isst*). His work was called a unique and erudite book, possessing more practical wisdom than many a thick philosophical treatise. Much evidence for this food determinism Rumohr does not, however, give.

A century later, the futurist F.T. Marinetti writes in his *The Futurist Cookbook* (1989, p. 67): 'We think, dream, and act depending on what we eat and drink. The

full stomach is the enemy, because it sets a limit to the continuity and acuteness of our gastronomic attention.’ Marinetti wants to differentiate therefore between food that strictly serves to maintain our bodily functions, and food that satisfies our gastronomic desires. The first type of food – the fuel for our body – must be provided by pills from government-financed laboratories. The second type of food – food as art – must be enjoyed through its esthetic preparation and context.

No matter how imaginative and original these thoughts about food and identity are, they are not realistic. Time and again it is clear, both in the production process and in the preparation and consumption of food, that totally different dimensions are involved that bear no relation to the production or consumption of food. Power processes and political factors possess a dynamism that cannot be traced back to sowing and harvesting, or to cooking and eating. Meals are not only moments of reconciliation, as depicted in films such as *Babette’s Feast* (1987; based on the book by Isak Dinesen) or *Chocolat* (2001; after the book by Joanne Harris). They are also occasions where quarrels arise and vendettas are fought out, as portrayed in films such as *Festen* (2000).

Even our relationship with nature is not dominated by agriculture and food production. Just as important are activities such as recreation, where nature is seen as the décor for travel and exploration, or economic production, where nature functions as a source of energy and raw materials. Food is only one aspect of our identity. An aspect that is seriously underestimated, that is true; but we must also not overestimate the meaning of food.

CHAPTER 4

MODERN AND POSTMODERN LIFESTYLES AND FOODSTYLES

Finally an evening to relax. Everyone slumps around the DVD screen, picks up their mobile phone to call a take-out, or e-mails the Internet service that matches their personal gene profile. Fifteen minutes later one take-out service after another is at the door, and the food feast can start. The microbiological processes start into action, enzymes are cleansed, lycopenes and phyto-estrogens hurl themselves onto hormones, anti-oxydants and free radicals are at each other's throats, like in a sectarian political faction. Phytochemical elements badly frustrate each other in metabolisms. What will be the outcome of all this? Is the genetically determined chance of cardiovascular disease about to strike during this meal? During intermission, random zapping to a news broadcast provides an answer: the discovery of a new series of proteins renders the carefully selected gene profiles useless, but it will take some years before it will be clear what a protein profile needs to look like. Back to scratch?

4.1 Nature, risks, globalization, and individualization

Viewed from a social viewpoint, modern Western societies are in the transition phase into late-modern or postmodern societies that are totally dominated by science and technology. The dominant, scientific, approach to living matter (as evidenced in agriculture, nutrition, and environmental issues) is a major impulse to this trend. The problems that these societies cope with, in particular the problems of ecology and nature, arise as a result of the confrontation of science and technology with themselves.

There are two aspects to this. In the first place, nature in the broad sense of the word – landscape, good nutrition, our body, animals, plants – is becoming scarce. A struggle for nature arises (Keulartz 1997), which calls for the romantic-expressive ideals and practices that are still prevalent in Western societies to renew themselves (see also chapter 10).

In the second place, the ecological and nature-related problems that result from science and technology become the object of scientific and technological knowledge and interventions (Beck et al. 1994). The techno-scientific culture, in the form of food production systems that are steered by science (e.g. intensive livestock breeding), leads to large-scale social crises such as the mad-cow disease, swine fever, or the foot-and-mouth disease. At the same time, these problems are identified by modern science and resolved.

Formerly, in what is referred to as the first phase of scientification, science and technology only needed to be applied to virgin territory, meaning nature and living beings. The second phase of scientification, however, which we are in the midst of right now, implies that science and technology are applied to themselves and their own products. The ecological, agricultural, and food issues, which are results of our techno-scientific culture, are at the same time a challenge for the sciences to come with new diagnoses and solutions through new disciplines and theories.

One of the most important results of scientific civilization is that scientific and technological risks start to act as factors that structure society. In early-modern society, individual lives were directed by constellations of unequal division of ownership that were often legitimized by the norms of that day. In late-modern or postmodern society, the generally unforeseen and unintended effects of techno-scientific interventions in nature and society play an increasing role. The new disadvantaged are those who are dependent on risks that are hardly foreseeable. The groups that become victimized are no longer identifiable on the basis of early-modern criteria such as social class, race, or gender. In late-modern society, new forms of political consensus (party formation) come about in an altogether different way, namely by experiencing the risks that nature, society, or the individual (e.g. health risks) incur as a result of techno-scientific interventions.

Late-modern societies are steered by the confrontation with the consequences of interventions in nature and in social relationships. A certain type of food can suddenly represent a risk. A good example is the controversy around vegetable oils. While everyone was convinced for years – on the basis of scientific advice – that vegetable oils involved no danger, some oils now turn out to be risky after all.

Another example is obesity. Because of the abundant and cheap supply of animal fat in all kinds of food (an intended effect of the techno-scientific food culture), the temptation is great to eat excessive quantities of food. The result is that at least 25% of all Americans now suffers from obesity, probably on the basis of genetic predisposition (Schlosser, 2002). The results: a rise in occurrences of asthma, diabetes, and other ailments, excessive use of hospital capacity by such persons, and much suffering. Estimates run as high as \$ 99 billion of additional hospital costs, not counting the intangible costs.

These effects are magnified by the intense but complex relationship between global and local developments. Events no longer appear to be fixed by time and place; they no longer have a local stamp. We are witness on television of a military coup or a murder attempt, of a war or holdup; we see more details than witnesses on the site; and sometimes we are involved more intensively, even though we are thousands of miles away. Traditional political views about the benefits of small scale and large scale must be reconsidered: small is no longer always beautiful, but the opposite also no is longer true (see chapter 9). The intense interdependence makes global arrangements mandatory; the nature of the problems (consider the greenhouse effect, ozone depletion, or the mad-cow disease) also forces us to.

This globalization has curious effects in particular with regard to the food system, because it implies a wide gap between food production and consumption. Most consumers today have no idea where their meat, milk, and other food products

come from. Sometimes a country of origin is mentioned on products in a Dutch supermarket. But these are isolated instances, because the estrangement of the consumer from the origin of food products is institutionalized in most areas. Not only developments in the food system have contributed to this, but also the widespread migration to the cities, which has taken place in most countries in the Northern hemisphere since the eighteenth century. This meant an exodus from rural areas, which are repopulated mainly by people from the city. I will discuss this in much more detail in chapters 9 and 10.

These four developments (the importance of nature, the second scientification, science, risks, and globalization) have far-reaching consequences for individual persons and the way they deal with food. In the past, food and nutrition was determined by fixed routines and a fixed lifestyle, in which agriculture, as the major food producer, was a clearly bounded socio-economic sector as well. In late-modern society, however, food is subjected to the changing demands of dynamic lifestyles, while agriculture loses its specific character. The fixed, early-modern lifestyle, which is anchored in an extensive network of institutions that envelop the individual like a cocoon, disappears; late-modern authenticity ideals take its place. These developments mean the rise not only of different lifestyles, but also of different foodstyles.

Late-modern identities cannot be regarded as answers to the challenge that people faced in the twentieth century. They lack the confidence-inspiring background of early-modern identity. The all-encompassing tradition, the broad horizon, or the great order that is so characteristic of the pre-modern or early-modern authenticity ideal, falls away. No matter how old a tradition, how broad a horizon, or how great the order of things, it at least has to be adjusted to the rapidly changing globalization trends; they must be brought up-to-date or corrected because they contained repressive elements. But generally these traditions, horizons, and orders turn out to be useless to the individual when confronted with the problems of life.

In late-modern society, pleas for broad horizons, or for venerable traditions to which people should subject themselves or for which they should have respect, are generally useless. After all, globalization presents new challenges to the authenticity ideal. In the past, it was mostly the tacitly present Western preconceptions of upper culture that assumed this ideal. Nowadays, I can be into Buddhist yoga, eat a hamburger at McDonald's, enjoy Monteverdi, and sail a catamaran without giving up my authenticity.

4.2 Late-modern lifestyles and foodstyles

Sociologists such as Giddens, Beck, and Schulze have shown that individualization has led to a multiplicity of lifestyles that also represent multiple – sometimes unconventional – forms of mutual solidarity and socialization. The characteristics of lifestyles, after all, are shared socially. The lifestyles are constantly in a state of flux, to a significant degree because of technological and scientific developments, such as the computer, modern means of communication, or new means of transport. In his

magnificent empirical and conceptual study of late-modern lifestyles, Schulze (1993, p. 142) differentiates three general categories:

- *upper culture*, whose typical features include a predilection for classical music, 'real' literature, and the French kitchen;
- *mass culture*, which goes for popular music, TV quizzes, and fast-food;
- *action culture*, which identifies with rock music, thrillers, and ethnic foods.

These three categories result in at least five lifestyles, each implying a specific foodstyle:

- the *integration* lifestyle: it stands for sociability (against upper culture, for mass culture) and regular consumption of traditional foods;
- the *harmony* lifestyle: stands for formal and proper behavior and a sense of security (for upper culture); frequent consumption of fast-food;
- the *upper level* lifestyle: stands for the pursuit of better and higher things in life (for upper culture); frequent consumption of slow-food;
- the *self-realization* lifestyle: more artistic, visits bars, is into eco-tourism (for upper culture and action culture); focused on functional food, slow-food, and urban community farming;
- the *amusement* lifestyle: focused on TV stars, is into fitness and gambling (mass culture and action culture); frequent consumption of fast-food.

What an upper level lifestyle adherent would call good and interesting (such as an academic lecture), the amusement lifestyle adherent would call boring or not of this world. What the upper level lifestyle adherent would call primitive or trivial, the amusement lifestyle adherent would call exciting, in his turn calling the upper level lifestyle adherent arrogant or aloof. Wolf (1994) distinguishes roughly the same categories, asserting that each category is represented by approximately one fifth of the total US population.

The interesting thing, as Schulze shows, is that these lifestyles do not fit within a hierarchy. In his examination of the dynamics of behavioral norms during the Baroque period, Norbert Elias (1939) showed that, with regard to food consumption, table etiquette and cuisine became increasingly subject to a prescribed discipline, and that this discipline was gradually taken over by the lower classes.

In the postmodern period, however, we do not see these 'lowering cultural values', meaning a flow of etiquette rules from an eminent elite to the masses. Since there is more than one cultural elite, the lifestyle of the upper class is no longer exemplary for the lower class: a dynamic mechanism between a high and a low culture is missing. Such dynamism might only work *within* one of the lifestyles mentioned: between trendsetters and followers. Schulze also shows that much 'shopping' takes place, with frequent switching between lifestyles (cf. Shields 1992).

Mintz asserts that 'food patterns are acquired early in life; once established, they persist long and resist change.' (Mintz 1996, p. 24) However, no one maintains the

same lifestyle all the time. Especially in late-modern societies, people regularly switch between lifestyle segments. Even fervent adherents of the upper level lifestyle do not always eat fashionably outdoors but will occasionally work away a McDonald's hamburger.

Important factors that impact this hopping from one style to another are age and level of education. Schulze shows that modern and late-modern individual lifestyles are quite complex. Individual persons have become 'swing consumers' (just like they are also 'swing voters'). The different types of lifestyle can give rise to different variants of food consumption, with varying emphases on health.

An important aspect in nutrition is the impact of the emancipation of women. Since mainly women were responsible for very long for the purchase of food and the preparation of meals, their choice to work outside the home has great influence on what is eaten and how. The upsurge of convenience food is partly due to this process. The food industry has, as it were, been quick to fill the empty place of the housewife.

Another significant factor is the ageing of the population and the resulting emphasis on living a long and healthy life. Prevention of a specific illness (or its chance of occurring), such as cardiovascular disease or cancer, thus becomes a major motivating factor in the purchase of foods, especially for the elderly (Childs 1994).

The five lifestyles that Schulze has defined can be nicely combined with the various styles of taste that have been developed in the taste sciences, and thus with specific products. Even though taste is an extremely complex phenomenon, with so many nuances that a classification seems hardly possible, a certain categorization can nonetheless be made. Kloss (2004) differentiates between four universal taste factors: *mouth feel or mouth sensation* (involving the touch function of the mouth), *flavour type*, *taste content*, and *complexity*. The last three are taste/smell factors.

'Mouth feel or sensation' ranges between two poles: tight (mouth contracting with sour, crispy substances) and filming (mouth-coating with fatty or sweet substances). Tight taste incites to activity, while relaxation and rest are associated with fatty or sweet. A tight sensation stimulates, while a filming sensation covers and relaxes. 'Flavour or taste type' oscillates between fresh and ripe or exuberant. 'Flavour richness or taste content' is a quantitative unit to measure the presence of a taste: a dominant taste has a high taste content.

Table 1. Mouth sensations and taste types according to Kloss

		Low taste type	High taste type
Mouth sensation	Tight	Fresh and young	Forceful and robust
	Neutral	Pure and basic	Sophisticated and harmonious
	Filming	Round and friendly	Full and ripe
	Neutral	Light and happy	Rich and exuberant

The upper level lifestyle is focused on tight, filming, and complex; food that meets these criteria requires some preparation, as with sauces or roast game dishes. The integration lifestyle focuses on filming; in the Netherlands that is associated with kale-and-sausage or cookies. The amusement lifestyle focuses on tight: adherents of this style prefer crisp French fries – washed down with a glass of beer – to a good steak. These classifications must be read with a grain of salt, because kale-and-sausage can obviously be perfect with a complex meal.

Even if the development of taste using this classification is determined by age, it still provides a foothold. For example, when everything becomes too filming or too tight (in other words, everything has become fast-food), then many nuances of taste are lost and its diversity gone. Just like biodiversity or the diversity of species is worth protecting, so also taste diversity is a great good.

I am not pleading, however, for a red list of endangered tastes, because of museum of tastes violates the lively and contextual aspects of eating and the preparation of meals. After all, the context within which a meal is served determines the taste of the food. Our fellow men play a role in this, but also the animals and plants that have ultimately contributed to the edible products. Disgust, distaste, picking at the food on one's plate– these are phenomena that result from events that are not directly associated with taste, such as a certain sensitivity to the disastrous fate of many farm animals, or to insects and other creepers and crawlers. (I will discuss this in much greater detail in chapter 10, which deals with ethical issues related to consumers.)

Even the taste of food is determined not just by the food itself: food determinism does not belong here. The link between taste and products is very speculative, because taste is very closely related to personal mood, background, and expectations.

CHAPTER 5

ETHICS AND POLITICS OF NUTRITION – LIBERAL VERSUS DELIBERATIVE PERSPECTIVES

'Laziness and cowardice are the reasons why such a large part of humanity, even long after nature has liberated it from foreign control (naturaliter maiorennes), is still happy to remain infantile during its entire life, making it so easy for others to act as its keeper. It is so easy to be infantile. If I have a book that is wisdom for me, a therapist or preacher who serves as my conscience, a doctor who prescribes my diet, then I do not need to worry about these myself. I do not need to think, as long as I am willing to pay.' (Immanuel Kant, *Was heisst Aufklärung*, 1785)

5.1 Autonomy and fairness versus identity in a community

The role of nutrition is controversial in ethics and that in various ways. In the first place, nutrition receives attention only occasionally; only in recent years does the subject receive more interest, in particular because of the emergence of genetic modification (GM-food; Sherlock, 2002), the safety and healthiness of food, and of trade conflicts on agriculture (Echols, 2001). But the position of food ethics within the total sphere of ethics – or, wider yet, of philosophy – is far from assured. Furthermore, a controversy is waged about how food ethics – if it has any right of existence at all – should look like. The proof of the pudding is in the eating. Therefore, I will deal with the first controversy by showing what issues are involved in food ethics (via the second controversy). Once the issues are identified, I will address the question whether they deserve regular and systematic attention by philosophers (thus coming back to the first controversy).

I will discuss the second controversy by first describing in detail the liberal view of ethics and the place that nutrition has within it. Next I will cover the critique of the liberal view and present an alternative: the *deliberative* perspective. This is a broader perspective that considers such values as respect for the individual as a member of communities and the pluralism of lifestyles.

In the debates about the pros and cons of genetically modified food, the consumption of meat, or the safety and healthiness of fast or organic food, some participants take the position that consumers must figure this out for themselves (Ford 2001; Sherlock 2002). Governments should only set limiting conditions, such as safety and health standards. Others, however, assert that food is a fundamental need for a community, that the community must possess the personal right to decide, and that market forces must not be allowed to control everything (Curtin 1992; Kneen 1999). This debate features, on the one hand, an appeal to such *liberal* principles as consumer autonomy and a neutral stance on the part of government and, on the other hand a *communitarian* appeal to culturally dependent values, such

as the role of nutrition in determining a person's specific identity (Ohnuki-Tierney 1993)

My guideline in this chapter in clarifying the ethical issue of nutrition will be the distinction between, on the one hand, the principles of autonomy and fairness and, on the other hand, such values as the specific identity of a community. These two views are described rather well in the literature of theoretical ethics. They serve as a fruitful starting point for a more detailed discussion about the controversies related to food. Using this distinction, we can inquire, as it were, into the significance and the weight of the arguments of advocates and opponents.

The viewpoint of autonomy and fairness is often formulated as follows: given that individuals are vulnerable and need protection, rules are needed that apply to everyone and that allow these vulnerable individuals to live in harmony. These rules (which translate into rights) appeal to the reasonable character of every person. They relate in particular to the right of survival, and thus to health, personal property, and more.

Key to this perspective is the principle of autonomy, the principle that everyone is entitled to organize his or her personal life, in the sense of freedom of choice of living partner, of career, religion, personal conviction, etc. This also includes the right to *exit*, i.e. the right to change with regard to these issues, to step out of a certain group or organization, to choose another way of life or another religion. The right to information, which makes it possible to choose intelligently, is closely related to this.

The second aspect that is associated with autonomy and fairness is the right to a *voice*, to be heard when rules are set concerning these important issues (Hirschman, 1970). With regard to the ability to choose versus the actual choice of a concrete object, such as a certain brand of beer or a specific type of cheese, a distinction is often made between *second order desires* and *first order desires*. Clearly it is more important to be able to choose a specific category of food from among a number of categories, such as fast-food, and to be able to realize that choice (second order desire) than to be able to choose everything within that food category (first order desire). Sometimes drumsticks are simply sold out, but that does not impair the fundamental choice for fast-food and the right to choose. First order desires are therefore less important.

Thirdly, there is the right to *access*, as I discussed in an earlier publication (Korthals, 2002). This entails that groups of consumers are entitled to goods and services if these are essential for their view of *the good life*. For example, if a large number of consumers is likely to benefit from certain food products, then scientists and food producers must respond to that (see chapter 8).

The perspective of the good life (also called *comprehensive doctrines of the good* or of lifestyles) focuses on the individual as part of a certain community. This perspective focuses on the individual as a member of specific cultures. It does not appeal to general consensus but only to the members of those cultures. In the more radical community-oriented ethical movements, everything must be subordinated to the principle of the good life. Within that perspective, orientation on the perspective of fairness and autonomy is nothing other than a certain cultural expression.

This distinction between the perspective of autonomy and that of good life can also be expressed in another way. Stuart Hampshire distinguishes between two types of moral claims: ‘Those that, when challenged, refer to universal needs of human beings and to their reasonable calculations (...) and those that, when challenged, refer only to the description of a desired and respected way of life.’ (1983, p. 138) With autonomy is connected a universal claim, with the good life a particular claim.

The liberal approach chooses for both perspectives, mostly with a clear preference for the universal perspective. The communitarian approach, on the other hand, takes the position that only the perspective based on cultural communities holds validity and denies the possibility of a universal perspective. Depending on the ethical perspective chosen, nutrition and health (in concrete terms, food and medicine) can fall under the category of universal needs, under that of special needs, or both. The distinction between these two perspectives is common among ethicists. It means that nutrition falls either under the principle of fairness/autonomy (according to some liberals) or under the domain of lifestyles and comprehensive doctrines of the good (according to communitarians).

Table 2. Ethical Perspectives Justice and The Good Life

Ethical perspective	Justice or Fairness (neutral)	The Good Life (dependent on lifestyle)
Conception of nutrition	Nutrition promotes safety and health as a universal good	Nutrition applies to a certain community where health, taste, or another value is dominant

What counts in the first perspective is that individuals are entitled to an overriding authority that, first, acts preventively and ensures the safety of the individual; and secondly, organizes a fair division and ensures an orderly market. What counts in the second perspective is that individual persons can participate in communities and cultures that are enabled to produce and consume those forms and types of food that belong to their identity.

With regard to controversies related to genetically modified foods (GM), health food or functional food (FF; Mephram, 1999; Roberfroid, 2002), or fast-food (see chapter 8), the arguments of advocates and opponents can be classified as follows:

Table 3. Advocates and opponents of GM-Food or Functional Food according to the ethical perspectives Justice and The Good Life

	Justice or Fairness (neutral)	The Good Life (dependent on lifestyle)
Advocates	GM or FF stimulate safety and health as a universal good (Ford 2001)	GM or FF apply to a specific community where health, taste, or another value is dominant
Opponents	GM or FF represent a risk to safety and health (Kneen 1999)	GM or FF infringe upon the normative orientations that are related to the communicative and social function of food (Curtin 1992; Mephram 1999)

This split into advocates and opponents is initially only for classification purposes. In the rest of this chapter, I will discuss two views that differ in the accent that they place on these perspectives and in the conceptualization of their mutual relationship (1). In that way, I will show that other combinations are possible as well.

5.2 The neutral liberal perspective on autonomy

John Locke (1632-1704) was the first to elaborate the liberal perspective in a fundamental way:

‘The commonwealth seems to me to be a society of men constituted only for the procuring, preserving, and advancing of their own civil interests. Civil interests I call life, liberty, bodily health, and freedom from pain, and the possession of outward things, such as money, lands, houses, furniture, and the like.’ (*A letter concerning toleration*, 1689, p. 234. Other translations of the Latin source text speak of ‘goods’ rather than ‘interests.’)

According to Locke, only the neutral regulation of civil goods, not related to a specific philosophy on life, falls under the principle of fairness; issues related to a certain view of life are excluded. Rights of individuals who are represented by the government are ‘anti-perfectionist’ by nature. They do not express a certain ideal of the good life but belong to a field that is neutral in relation to a person’s philosophy on life.

Locke describes the example of washing with clean water: ‘The Magistrate may order that children be washed with water if he understands such washing to be profitable to the curing or preventing of any disease, but not for the purification of their souls. (idem, p. 241)

The neutrality view, which is characteristic of the Lockian perspective of fairness, maintains that a government may only prescribe that a child be washed with clean water if it concerns the health of the child, and not if it only concerns the purification of the soul. Intervention in a person's life is only allowed in relation to failure that can be demonstrated scientifically. If a person is against washing for religious reasons, he or she may be forced to wash if the – literally – purifying quality of such action is proven scientifically.

Inherent to the liberal perspective, therefore, is an appeal to the independence and neutrality of science. To Locke, only those goods fall within the domain of fairness (i.e. that of politics and government) that can be enjoyed regardless of a person's philosophy on life. Everyone needs education and health facilities; that is why these goods are 'polyvalent' and 'instrumental'. In short, politics and government may only promote health from a neutral perspective.

Locke's universal line is continued by John Rawls, whose contributions are central to the modern liberal perspective. The starting point for Rawls is the question which universal principles of justice will lead us, 'with the veil of ignorance' (Rawls 1972, p. 136): individuals do not know which role they will play in society. From this ignorance they must decide about the ethical principles that are to guide them (p. 139). 'It is clear that since the differences among the parties are unknown to them, and everyone is equally rational and similarly situated, each is convinced by the same arguments. Therefore we can view the choice in the original position selected at random.'

Rawls deduces two principles from this starting point. The first is: 'Each person is to have an equal right.' (p. 302) The second is: 'Social and economic inequalities are to be arranged so that they are both to the greatest benefit of the least advantaged, consistent with the just savings principle.' The formulation for the two principles combined is then: 'All social primary goods – liberty and opportunity, income and wealth, and the bases of self-respect – are to be distributed equally, unless an unequal distribution of any of these goods is to the advantage of the least favored.' (p. 303)

Applying these two principles, Rawls is able to show that a just society guarantees equal opportunities for its citizens with regard to education and culture, for example by setting up public schools and subsidies (p. 275). He also distinguishes four ways in which the government establishes economic justice: through the institution of four government departments. The first, the allocation office, is intended to keep prices and the pricing system competitive. The second, the stabilization office, must ensure full employment. The third department, the transfer office, must keep everyone above the poverty line. Number four, the distribution office, adjusts and coordinates ownership rights.

In the view of Rawls, public schools may not promote views about what is good, not even liberal views; all public goods must be neutral. Government must always ensure equal access opportunities, both in schools, the health sector, and the markets. It must prevent products from becoming too expensive as a result of unfair business practices. But as stated earlier: government authorities may not act in a perfectionist way, promoting a certain ideal of the good life.

In *Political Liberalism* (1993), Rawls elaborates this idea, in such a way that fairness realizes equal chances for each conception of the good life that respects the principles of fairness. Basic institutions and public policy must be subjected in such a way that they do not favor any particular comprehensive conception (1993, p. 194). Den Hartogh summarizes this position as follows:

‘Among the class of things you have reason to want, we may count education, health care, and the prevention of poverty, the protection of the environment, the prevention of force and fraud, the provision of punishment, the construction of roads and the upkeep of the infrastructure, national defense, and the preservation of the cultural heritage. All these are neutral goods, not tied to any specific comprehensive conception of the good life. (Den Hartogh 2000, p. 20)

Among the primary goods that Rawls and others identify in the liberal tradition, nutrition is never mentioned. But I would consider it likely that nutrition largely falls under health. After all, we are talking about a provision that is necessary for the preservation of the political community: everyone, regardless of personal conviction and lifestyle, needs it. The question is then what aspects of nutrition (just like health and education) should fall under the principle of fairness and autonomy, and which under the domain of lifestyle and the comprehensive doctrine of the good.

In the first perspective, that of neutrality, the essential thing is that a government firstly, acts in a preventive way and ensures the safety of the individual; and secondly, achieves a fair division according to the difference principle, thus ensuring equal access to markets, etc.

What counts in the second perspective is that communities are enabled to produce and consume those forms and types of food that are essential to their identity (without conflicting with the neutral perspective). In the first perspective, health and nutrition are neutral goods. If the health and safety of citizens is at stake, a citizen is justified in expecting that the government (fair as it is) will intervene, as in Locke’s example of washing, for one of the conditions for the exercise of autonomy by citizens is not met. Damage refers here to events that can be established in a methodical and precise way, not to religious or metaphysical indications. But public authorities can also act from a positive stance. If scientific evidence demonstrates that nutrition promotes health, then there is no reason for the authorities not to promote health food. Even more, they must do everything in that case to promote it.

This makes clear why food or nutrition is never mentioned in the liberal approach: it simply falls under health. The liberal approach cannot really differentiate between health and nutrition. As with Locke, the principle of justice covers only health as a public good. Nutrition falls under health, so it must be regulated in a neutral way. On the other hand, insofar as it is neutral in relation to health (i.e. it does not impair the health of citizens), it falls under the lifestyles and comprehensive doctrines of citizens and consumers – so they can eat whatever they want.

In this line of reasoning, it is essential to differentiate between the citizen, who acts in the political arena, and the consumer, who acts in the market. Traditional liberal theories derive this differentiation from Rousseau's distinction between *bourgeois* and *citoyen*, or between *amour propre* and *amour de soi*. In other words, love oriented on the relationship between an ego and others, and love oriented on an ego and the person's natural needs (Rousseau 1959). Based on this distinction, consumers (*bourgeois*) can act freely in the market according to their personal preferences, whereas in the political sphere they act on the basis of common interests and develop common preferences.

According to the traditional liberal tradition of autonomy, consumers are entitled when participating in the market to the right of information about food products and to alternatives. Political or ethical issues do not, however, belong in the market arena but in the sphere of politics. Pursuing this line of thinking, governments have the task of preventing safety risks. For the food system, this means that they must ensure adequate veterinary and health measures. The prevention of risks is a governmental task. The right to information is one of the good reasons why products are labeled.

Both in a general and in the more specific sense, consumers are entitled to be informed about the health risks of food products (Todt & Lujan, 1997).

Thompson (1989) draws from this the consequence, which some liberals consider all too extreme, of a dialogue between producers and consumer about risks: 'Agricultural producers must participate in the dialogue that leads to social learning and social consensus about risks, and they must be willing to contribute the time and resources needed to understand the positions of their fellow citizens, and to make articulate statements of their own position.'

5.3 Problems of the liberal approach

The main problem with the liberal approach is the view that nutrition and health are neutral goods and, more fundamentally, that governments must be neutral instruments in the provision or facilitation of these goods.

Nutrition and health care are intrinsic goods, however. In a certain sense, the liberal approach appears to recognize this. But by doing so it creates an inconsistency since, according to the liberal approach, these goods (at least health care, which it addresses specifically) must be provided as concrete goods rather than in the form of money or vouchers. If these goods were strictly neutral, and if the liberal theory were indeed to take seriously only the autonomy of citizens to organize their own lives, then money would suffice (Den Hartogh 2000).

Secondly, nutrition and health care are expressions of common elements of views about the good life of one or more specific cultures. The controversies about nutrition and the various consumer concerns make this quite clear. They show that the consensus about health with regard to nutrition calls for reassessment, that it rests on a temporary compromise between the various inherent views about nutrition. The widespread view of a five-course food platter that was intended for everyone (dairy products, fruits/vegetables, meat/fish, fats, cereals) was not a neutral

position but the consensus at a specific moment in time of the principal views on nutrition.

A third problem with the liberal approach relates to the impossibility of distinguishing between food and medicines. If it is claimed that certain food products contribute fundamentally to good health, then the liberal view – which attaches great value to health as a good that creates conditions for the exercise of individual autonomy – can only be positive toward the identification of food and medicines. From this perspective, citizens are entitled to health food. Governments should arrange for health food; their subjects may even be forced to purchase health food if its benefits are scientifically guaranteed. Suddenly, the liberal perspective becomes a mandatory perspective! (Boughton 1984 shows a similar transition in health care.)

In chapter 4 I have shown that food, as distinguished from health, is a key element of the informal and formal relationships of communication and interaction. Without such relationships a political community is doomed. That is why it is important to distinguish between food and health.

From the liberal perspective, food can only be evaluated on its safety and health aspects. In the professional literature, the view is often taken that consumers likewise evaluate food on those aspects. (See the earlier quote from Thompson, 1989; Powell & Leiss, 1998.) But time and again it turns out that risks and safety are only specific and limited translations of the broader normative orientations of consumers (see also Appendix 1 on food safety). These are more or less covered by the various nutritional functions of food as presented in chapter 4, like the aesthetical, social, and cultural function. Very relevant to this is the consideration that an individual citizen/consumer assesses risks in a twofold way: firstly from the information that experts provide, and secondly from the perceived reliability of the expert who provides the information.

This last consideration is related to trust in institutions and experts, a notion that is difficult to correlate to the liberal concept of autonomy of freedom of choice and the right to autonomy (Korthals, 2001a). After all, trust in a certain expertise and in certain social institutions implies that individuals cannot assess everything themselves, that they accept this, and that the right of freedom of choice and to information is bounded by the expertise systems that they rely on. This trust in social institutions is not blind faith; it has various degrees. But an essential element is transparency: no conflict of interests, and openness on the part of the social institution that is relied upon.

Finally, the sharp distinction that the liberal approach makes between citizens and consumers is also problematic. Citizens form their political and normative opinions on the basis of their interests, and those interests and opinions determine their buying behavior. An individual person acts in both spheres and is confronted with different demands. We are not dealing with two separate roles or two separate individuals.

The distinction between citizen and consumer thus no longer holds. Current consumer concerns show that consumers also make political demands in the market. Only from a limited neo-classical view of an unregulated market would this not be tolerated economically.

Furthermore, governments cannot regulate everything; they are no longer the spider in the social web. Key issues of an ethical-political nature must be regulated by market partners. There is, however, a difference between economic rationality and political rationality – sometimes these forms of rationality are mixed up in the liberal tradition. Rawls, for example, claims: ‘A commercial society tends to fashion in its citizens certain virtues as assiduity, industriousness, punctuality, and probity; and that commerce tends to lead to peace.’ (1999, p. 46) But the market can also stimulate negative qualities, such as greed, fraud (think of Enron!), thoughtless depletion of minerals, and erosion of behavioral conventions. It can also bring about structural injustice, for example by making the injustices of the market and as its consequence the social inequities, tolerable for the national population through wars of external, international, conquest (as happened in Europe during the entire era from Napoleon to Hitler).

5.4 *The deliberative perspective on nutrition*

The deliberative perspective of Jürgen Habermas criticizes the liberal perspective as systematically expressed by Locke on a number of aspects: for example, the premise that a democratic state must be neutral and avoid intervention in the differences among its citizens with regard to personal conviction and way of life. In the deliberative view, the autonomy to shape personal life and public life go together; both forms of autonomy must reinforce each other.

The central premise of the deliberative perspective is a tripartite view of society. Normative issues can be divided into three categories: government and law, the market, and civil society involving public opinion. Next to this, Habermas develops three forms of normative discourses that are more or less institutionalized in these three areas of society.

The first is the *moral discourse*, which roughly corresponds with the description by Stuart Hampshire presented earlier. Arguments of universal scope and issues of justice (which should apply to everyone) are presented here. Impartiality, meaning total distance from personal interests, is crucial to this (2).

The *ethical discourse* involves issues of self-understanding on the part of a community (lifestyles or living modes). Impartiality here does not mean denying one's personal identity and community but investigating how personal identity can be shaped in the light of concrete challenges and problems. ‘Problems of ethical self-understanding arise within the horizon of a personal life, and ethical discussions require a different form of distance than moral discussions’ (Habermas 1998). Habermas sometimes calls ethical discussions *Selbstverständigungsdiskurse*, meaning discussions in which a community takes a position (regardless of consensus) in response to challenges, aimed at its personal identity (3).

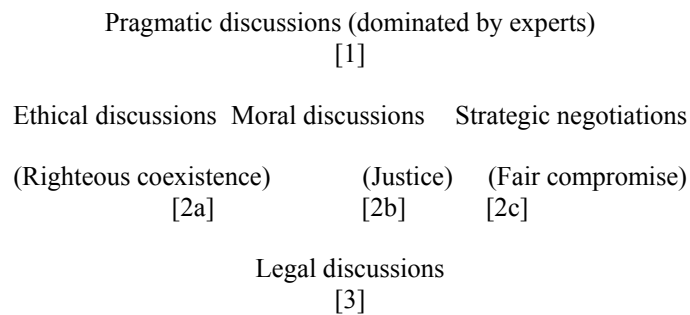
The third discussion is a *pragmatic or prudent discourse*, aimed at an adequate link of ends and means. This is mainly a discussion involving experts (4).

The principal difference from the liberal position discussed earlier is that, according to Habermas, the three social domains (government and law, the market, and civil society) are a mix of these three discussions. Government and law

(politics) are never alone but a realization of universal norms; time- and place-related values and norms of communities are hidden in these universal norms.

In *Faktizität und Geltung* (1992), Habermas designs a deliberative-process model of democratic politics. This model features a multiplicity of mutually entwined forms of communication. The three types of discourses are supplemented in this model by strategic negotiations, aimed at fair compromise. These are covered by legal discussions that evaluate the results for legal consistency. The model looks as follows:

Table 4. The relationships between different types of discussions according to Habermas



A typical issue is first processed by means of checks and counterchecks in pragmatic discussions. Experts prepare opinions that are evaluated in the public arena on their ethical and moral merits in ethical and moral discussions, respectively. Strategic negotiations are then held to determine whether a compromise can be reached. If that turns out to be impossible, then it must be determined whether society must tolerate the temporary coexistence of differing views. All of this is reviewed in legal discussions, to determine whether the chosen solutions correspond with the legislation and rules that are already in effect.

In this way, general political and collective goals that have gained national recognition are incorporated in legal systems. Government action and legal systems are thus not neutral, for they reflect the history of concrete modes of life (p. 252). It must be remembered that the ethical coloring of law and politics always represents a temporary compromise, in which the dominant way of life can leave its mark on the whole. The political domain cannot and must not be cleansed of philosophical or ethical arguments. But also it cannot and may not concentrate solely on moral or universal arguments.

Habermas hopes that pride in the constitution and institutions of a nation can bear the abstract, political identity of the citizens, rather than language, dominant culture, or something similar. He calls this form of political integration ‘civil-state patriotism’. A government must, however, be impartial towards the religious and moral views that are found within its territory. A specific legal system can never be neutral in relation to other governments and legal systems, but in relation to its own subcultural communities it must be impartial. The various religious and moral views

must be respected, and they must respect each other (as the universal, moral discourse prescribes).

Habermas believes that respect for the individual (moral discourse) implies respect for the cultural community (ethical discourse) to which such person belongs. The right to respect for cultural communities and their views on the part of the political domain is an entitlement, without this meaning that individual rights must be sacrificed to collective rights. The various modes of living must coexist in an ethical equal-rights atmosphere, with individuals having the rights of exit and voice (that is, the possibility to depart from a living mode chosen earlier and to let one's voice be heard in a living mode).

The ethical discourse in a nation takes on two forms, for there are two forms of ethical self-understanding: one with regard to the national constitution and national political issues, and one with regard to the more specific living modes that individuals participate in (Habermas 1996). In the public opinion, which is an essential element of civil society, the various groups and cultures combat each other by means of arguments, with the three types of argument or discourse – moral, ethical, and prudent – linked to each other. The link described earlier, between the personal autonomy of the choice of a concrete way of life and the public autonomy of the shaping of social life, is thus established. The personal autonomy of citizens to choose and the public autonomy of citizens to enact laws must therefore go hand in hand.

The civilized struggle between cultural views about the quality of life is a form of peaceful and righteous coexistence, based on the neutral right to respect that a cultural view is entitled to. This coexistence may result in far-reaching forms of self-control, provided that the constitutional rules are not violated. The obligation to recognize different philosophies on life means that these may organize themselves, with their own specific rules and forms of communication.

This obligation of acceptance and the ensuing detailed regulations are legal claims that are neutral with respect to the possible correctness of the specific philosophy on life. A subculture must not be respected because it is meaningful for every person or because it could be relevant to everyone. Individuals have a *right* to equal respect, as well as to the living arrangement that shapes their identity and that they shape in turn. Regardless how wrong or irrational a certain philosophy of life is in the view of others, it may never be prohibited strictly for that reason. As long as it does not violate the constitution, it must be respected. But this respect does not mean a guarantee of continued existence: if a subculture loses its members, if it does not rejuvenate and renew itself, then it dissolves.

5.5 Toward non-neutral, impartial ethics and politics of nutrition

Just like Rawls, Habermas never mentions nutrition as a public good. Nonetheless, I will attempt to shed some light on the food controversies sketched earlier based on the variety in concepts.

Within the set of definitions applied by Habermas, health and nutrition are culturally determined public goods that are the object of an impartial and moral set of nutritional politics that is also colored by philosophical considerations.

As stated earlier, nutrition is tied to a certain way of life, to a specific philosophy on life. At the same time it is a political subject with a moral connection, in this case (distributive) justice and safety. Like Rawls, Habermas believes that nutrition falls both under the principle of justice and public autonomy and under the domain of lifestyle (comprehensive doctrine of the good). But an important difference from Rawls is that Habermas recognizes that public goods like food are not neutral but the expression of a historically grown consensus. The interaction between modes of living and the related food styles, meaning the pluralism of food styles, thus becomes very relevant.

Table 5. Relationship between Justice and The Good Life according to Rawls and Habermas

Rawls	Justice (neutral)	The good life (depending on mode of living)
	All nutrition must promote safety and health as a universal good	No pluralism of food styles
Deliberative perspective	Justice (non-neutral and impartial) (= moral)	The good life (depending on mode of living) = ethical)
	Politics seeks to establish standards of safety and health via ethical, moral, pragmatic, and legal discussions	Coexistence of food styles: health food applies for a certain community, in which health is the supreme value; next to that other food styles, e.g. organic

In the perspective of Rawls, this pluralism is not taken seriously (other than the pluralism of religious views), whereas it is taken seriously in the perspective of Habermas. Starting from the principle of justice and from the fact that food is a non-neutral public good (and thus subject to moral discourse), a government is expected, with regard to nutrition:

- a. to act preventively, to look after safety and health, and to ensure acceptable production processes (demands regarding animal welfare, respect for living beings, etc. can thus apply here);
- b. to achieve a fair division according to universal principles and to ensure the right to voice, to exit, and to equal market access.

The right of equal market access (for producers and consumers alike) means a considerable extension of the liberal duo of the rights to exit and to voice à la Hirschman, as we have known until now, into a trio. It implies that newcomers (and products based on new lifestyles) may not be unduly barred from the market. It also means that the liberal distinction between citizen and consumer is disbanded (see

Chapter 10) (5). From an ethical viewpoint, government must promote the coexistence of lifestyles with equal rights and related food styles. The choice of individuals for food that meets the requirements set by government must be respected, regardless of whether individuals are regarded to feed themselves in an irresponsible or distasteful way.

Here I depart from liberals such as Musschenga, who abruptly switch from a purely liberal view to a purely perfectionist, almost paternalistic view. Musschenga (in Den Hartogh, 2000) maintains that a minority culture must be protected if it is so outstanding that it must be preserved for the rest of the world. But suppose there is a subculture that cannot prove that it possesses such unique value – does it not have a right of existence? And suppose that a specific subculture has hardly any members – must others, opposite to the right to exit, then be forced to join it? In my opinion, subcultures must not be recognized on the basis of perfection and excellence, but on the basis of respect for the persons involved and the cultures that they belong to.

Politics, and thus government, must concern itself not only with security and the safety of food, but also with the promotion of certain health and food views. If new views challenge the existing, generally accepted views, a new ethical position must be developed about the value of these new views. This means that politics should stimulate that an acceptable compromise is established about regulations concerning health food, so that the gray zone between food and medicine is clearly allocated according to the deliberative view of political and public debate. In the deliberative view, the gray zone must become white as long as the distinction between food and medicine is maintained.

Viewed within the historical context, the types of food that a person can buy have been determined during the past fifty years by a specific view of what constitutes healthy and good nutrition. This view has shifted over time, leading to the emergence of food products aimed at improvement of health through enriched food. The multitude of choices that individuals are offered in the markets is no longer only in terms of quantity (food safety), but also in terms of quality considerations related to health, enjoyment, or the preservation of traditions, such as in the slow-food movement. These quality considerations must be shaped further along democratic lines, with the government setting appropriate conditions to steer that process.

The coexistence of food styles is a significant issue. It implies that specific philosophies about nutrition cannot set exclusive claims, because such claims evidence a lack of respect for differences in interpretation with regard to healthy and good nutrition. The consequence of this coexistence is the need of compromise, such as the segmentation of markets, with separate rules such as currently apply for example to kosher food.

5.6 Conclusion

This chapter contains a plea, expressed in rather technical-philosophical terms, for a set of ethics and politics that deals with nutrition on a narrow-perfectionist basis, and which brings together in a fruitful dialogue the various quality-related views about

food styles. By narrow-perfectionist I mean that the significance of cultural lifestyles, including food styles, is recognized, while the orientation on universally applicable rules is maintained at the same time (remembering that those rules are also determined by culture and can thus encompass more than merely safety and health, such as in the liberal perspective). A *communitarian*, broad-perfectionist approach would regard the orientation on general rules strictly as one of many orientations, thus leaving the coexistence of lifestyles to coincidence, while a *liberal*, anti-perfectionist approach would concern itself only with general rules that apply to everyone and disregard the peaceful coexistence.

The relationship, as described, between non-neutral general rules with regard to nutrition and a lively coexistence of nutritional views forms a fruitful starting point for discussions about food policy in most European nations during the past few decades. Directly after the famines caused by WW II, a general consensus arose in the 1950s about a nutritional view for all that was instrumental in the establishment of safety and health rules. However, this idea of a nutritional view for all has gradually turned out to be one view among many – even though it is still reflected in all sorts of public measures.

European governments are nonetheless increasingly engaged in amending their food policy and are paying greater attention to other forms of agriculture and food production. In my opinion, they should be impartial toward specific views on nutrition. Impartiality means here: allowing access to the market for every food style that has somewhat crystallized, provided that this style adheres to the agreed legislation concerning safety, health and production methods, and provided that this style complies with certain rules of proportion, for example concerning purchasing behavior and other expressions of interest between different groups of consumers.

If it turns out that a certain food habit and style has not yet penetrated the food system, while it can count on a considerable number of adherents, then we have a backlog (based on the right to access or entry) that should be worked away through preferential measures. This does not represent a violation of the equality principle, because anti-discriminatory measures are conceivable that facilitate the access of such food styles to markets and that regulate their publicity and marketing. This type of measure is intended to promote the equality of subcultures, in this particular case with regard to their right of access to markets.

In the beginning of this chapter I distinguished two controversies with respect to philosophy of nutrition: in how far this discipline has any right of existence at all, and how it should look like. I have given a solution to the second controversy, by showing that food and food styles urge us to take into account the special relationship between general principles and particular orientations and life styles. Here is my solution to the first controversy: by conceptualizing this relationship in terms of narrow-perfectionism, I have made clear that philosophy of food contributes in a substantial way to philosophy and ethics in general, thus having a birthright as a discipline of philosophy.

Notes

1. I do not concur with extreme liberals such as Miller, who (in the footsteps of Nozick) rejects all government intervention in food markets (Miller 1999; Miller in Murray & M. Mehlman, 2000).
2. I personally consider Habermas' heavy emphasis on (moral) consensus and his related view that a moral problem has only one correct answer to be very problematic. As to the first issue, Habermas believes in the possibility of political consensus, though it might be the result of compromise, fair negotiation, or prudent consideration (p. 257). In my view, institutions are needed to take decisions, and a proper distinction must be made between deliberation (aimed at the development of interesting opinions) and decision-making (aimed at reaching decisions that may or may not be based on consensus). As to my second point of criticism, see the following: 'The democratic process promises to deliver an imperfect but pure procedural rationality only on the premise that the participants consider it possible, in principle, to reach exactly one right answer for questions of justice' (Habermas in Rosenfield and Arato, 1998, p. 403). The continuous emergence of new developments in the field of nutrition, however, makes it nearly impossible for only one answer to be the right one (see Korthals, 2001a).
3. A fundamental issue that Habermas does not go into is what belongs to a philosophy on life: in other words, what makes a cultural community what it is. The term is generally applied rather broadly, but it is quite clear that the rules for establishing a philosophy on life that apply in a nation must be redefined in an ethical discussion rather than by the dominant culture. This implies that each form of regulation must be regarded as a temporary compromise (which can be altered in due time as a result of new developments), with power politics playing a major role. With regard to nutrition, this means that the recognition of different food cultures is always a historical compromise that can be changed as new developments arise.
4. Habermas has a blind spot for the value definition of the views of experts and tends to keep the objectivity of scientific data outside the normative rationality of ethical and moral discussions.
5. In some publications Habermas upholds the distinction, criticized here, between citizens and consumers, for example when he contrasts the 'self-interested attitude of market participants' with the ability of citizens 'to exercise their political liberties in the service of mutual understanding' (Habermas, in Rosenfield and Arato 1998, p. 385). In other publications, however, he abandons this distinction (Habermas, 1996, p. 206).

CHAPTER 6

LIVING WITH ETHICAL DILEMMAS

Do you want Dilemma and Compromise or Food Fights on your plate?

Does this scrambled egg from a battery hen fits with the lightly salted ham from a free range pig? Are here any food fights on my breakfast table? But look, the pig has got its teeth cut; so what is the difference between a free range pig and a battery hen? Does it still taste as good? Your company likes it! And what of farmed salmon (of which its certificate claims that it is environmentally sound bred) which is accompanied by genetic modified potato cookies, where no pesticide are used? Is this a sustainable mix on my plate? But the seashore is already ruined by fish farming and the plate seems to taste like that. The dessert of Rum Baba with sorbet and cherries tastes excellent, but somewhere your palate is remembered by the child labor that is accumulated in the cherries. Eating dilemmas and having a nice evening with your friends?

In the field of agriculture and nutrition we are confronted with many ethical dilemmas. They make for variety in human existence, but they also make it impossible for us to go on leading our hectic lives or just keep existing without giving these dilemmas any further thought and live from hand to mouth. In this chapter I will discuss various dilemmas and then present three traditional approaches. These are approaches that mainly involve top-down reasoning, making them, in my opinion, not very helpful toward making ethical dilemmas bearable. Next I will expand on the deliberative perspective that was introduced in chapter 5 and propose a reasoning blueprint. Finally, this leads to an ethic that uses deliberation to help shape or design our lives. The key elements in this design ethic are forms of deliberation, values, and food conventions that inspire confidence.

6.1 Ethical dilemmas in agriculture and nutrition

Nutrition is inevitably caught up in many dilemmas. A dilemma is more than just a problem. A dilemma arises when there is a moral issue that involves at least two different norms that are impossible to observe fully at one and the same time. A characteristic feature of a dilemma is that it can never be resolved in an altogether satisfactory way.

A whole series of nutrition-related dilemmas has to do with the theme of eating and being eaten. For us to be able to eat and to continue to live, the existence of a great many living beings (plants and animals) is cut short; eating and dying are closely and intrinsically connected. This dilemma can be expressed in sharper or in weaker terms, depending on how we view the relationship between humanity and nature.

When eating, all sorts of bodily processes inherent to life are started up or continued, while other processes are cut off and definitively ended. Here too, a

specific view about the relationship between human beings and nature is presupposed. Likewise, all sorts of dilemmas relate to the production of food.

Because of their effects on the environment and on health, ever greater demands are placed on nutrition. Food will thus increasingly require processing, while on the other hand many consumers want food that is natural and unprocessed.

The processing of raw materials in light of the demands of public health inevitably leads to the urbanization of agriculture (which is often forgotten; see, for example, Metz 2000) and to restrictions on the use of land (as in extensive cattle farming). This leads to a conflict between, on the one hand, environmental and public health demands and, on the other hand, issues related to esthetic appreciation of the landscape. From an environmental aspect, hog, chicken, and cow high-rises may be viewed positively, but their contribution to the beauty of the landscape is questionable.

The demands of the environment and of health also lead to growing conflicts with the demands of animal welfare. Environmental and health requirements by and for human beings imply, after all, that animals will have less space to move around. One of the five demands proposed by *The British Royal Society for the Prevention of Cruelty to Animals* – and adopted in 2001 by the Dutch government committee for the restructuring of the agricultural sector – states that animals must be able to move around according to their normal behavioral pattern. For many farm animals, being locked up in a confined space without fresh air means a limitation of this freedom. Anyway, the demands of the environment and of public health are often at odds with the demands of animal welfare.

Modern biotechnology also presents a great number of dilemmas. Genetic modification enables crops and farm animals to be manipulated in such a way that the environment benefits greatly. Cows and hogs, for example, can be modified so that keeping these animals no longer involves significant environmental problems. At the same time, however, biotechnology can impact the well-being of these animals, so that it is viewed by many people as a threat to the intrinsic value of animal and plant life. Genetic modification can alter crops in such a way that there is less need of chemical fertilizers, herbicides, and insecticides. (For example, to reduce the emission of phosphates, we can increase the amino acid content of animal feed, or add phytasis. See Paoletti and Pimentel 1996; Rollin 1995.)

However, the risks of genetic modification for the environment, for human health, and for the diversity of life are still unclear. Moreover, in Europe there is not an objective institute with sufficient public authority to tackle this problem effectively.

A second dilemma in this context is the growing inaccessibility of modern food and farming technology. Modern technology, with its far-fledged global networks, its complicated equipment, and its enormous economic investments, leads to a widening gap between experts and the general public. This is a real problem in nutrition and agriculture, since these involve dimensions that are closely tied to the everyday life of each of us. Due to this gap, people often have all kinds of strange ideas about agriculture and the food processing industry; conversely, producers often have peculiar notions about consumers (Thompson 1997; see also chapter 10). The

global structure of capital investments, the power structures involved, and the complexity of the issues promote a climate of confusion and even mystery about the way food production is organized and regulated.

Each of these dilemmas is acute and calls for a solution, but the solution is hard to find. And always there are losers.

6.2 *Three approaches in food ethics*

In dealing with ethical issues related to nutrition, there are three common approaches, which I will describe briefly here. All three are top-down approaches that are based on certain principles or blueprints. They do not start out from the intuitions of the parties involved in an ethical issue, but instead tackle the problem from the outside, as it were.

The first approach is the *cost-benefit analysis*. This is generally applied by governments when preparing decisions about controversial technologies, with the advantages and disadvantages being assessed in quantitative terms. For example, for combating a veterinary disease, detailed calculations are made of the pros and cons of vaccination or doing nothing (and culling afterwards). Financial considerations are foremost in this approach. Quantitative considerations are also applied in decisions related to innovations. An important issue here is *whose* costs and benefits are being discounted; a choice must always be made, because an innovation can have enormous side effects.

As I will argue later (in chapters 7 and 8), the cost-benefit analysis especially leads to great problems when it is not clear what the costs and benefits will be: in other words, when new technologies are introduced. A new element in public decisions is the precautionary principle, which entails that it is better to refrain from innovation if the outcome is too uncertain and good justification is lacking. The precautionary principle directs attention not only at the financial uncertainties, but also at the wider risks for the environment and public health and at the justification for a specific innovation.

The second approach, that of *utilitarianism*, pays somewhat more attention to the justification aspect; it in fact provides the philosophical basis for the cost-benefit analysis. According to the utilitarian or consequential-ethical perspective, an act is proper if its effects are good. This perspective focuses on the consequences of a certain action. The consequences must be evaluated according to the principle of the greatest possible well-being. Bentham (1748-1832), the patriarch of this approach, speaks of “the greatest good for the greatest number”. If the greatest possible well-being is promoted, also if it does not apply for every person in the same degree and some people might even be worse off because of it, then the action can still be considered proper if the majority is better off. An act that leads to benefits for a majority, while disadvantaging a small minority, will generally be approved by a utilitarian.

Utilitarianism thus leads to a consideration of effects (and only indirectly of principles). It comes close in that way to the cost-benefit analysis as that is advocated by certain economic movements. There are many variants of utilitarianism, and, according to one variant, principles and general rules (as laid down, for example, by law) are definitely meaningful, because they reduce the risk of a breach of well-being. However, utilitarianism does not take fundamental rights, principles, or obligations into account in a principled way. In general, utilitarianism is permeated by the idea of not causing damage, and of doing well. The first is a negative approach, where the main effort goes into limiting the negative consequences of an action. The second is a more positive approach, where the effort is to optimize as much as possible.

Thirdly, there is the *deontological approach*. This strongly emphasizes principles and obligations, in the assessment whether an act is correct or good. A well-known general principle is the autonomy of the individual person (which, according to some animal ethics, also includes animals; see chapter 8). Another principle is justice, in the sense that everyone is entitled to a fair share (see the version of Rawls in chapter 5).

The most famous representative of the principle-ethical approach is Immanuel Kant (1724-1804). He does not start out by preparing a list of obligations; instead, he identifies a criterion, which morally acting persons use to judge whether something represents an obligation. This criterion he calls the categorical imperative. It reads as follows: “Act only according to the maxim about which you can wish that it becomes a general law.” In other words: can I really want that everyone acts as I now want to act?

For example, if I wish to borrow money from someone without wanting to return it, I must ask myself, applying the categorical imperative, whether I indeed wish that everyone would act this way. The answer to this is obviously “no”, since no one would then lend money to another person anymore. Rawls’ principle of justice (Chapter 5) belongs in this category.

Next to these approaches there are others that are less directed at the individual person and individual choice, and more at the social context, human solidarity, and obligations that have historically grown – in short, approaches that seek to give an answer to the question as to what constitutes good living. The deliberative approach set out in chapter 5 takes these insights into account, but it also incorporates aspects of the other two movements. Other movements that belong to this alternative approach include virtue, care, and contextual ethics.

All these approaches fight each other to the death, with the university scene as a permanent battleground. But the key question is, of course, whether the solutions to dilemmas based on these distinctive rationales are so different – which in practice turns out to be not the case. Principles and general rules and debates are fine; but these theoretical conflicts do not need to obstruct the joint solution of a concrete dilemma. In solving concrete ethical issues, the deep controversies more often turn out to relate to sharp differences in philosophies on life than to differences in ethical theory. The deliberative approach takes this insight into account by placing rational

deliberation in the forefront in questions such as how to live in a good way with modern food technology.

The new field of agricultural and food ethics generally advances a mix of the deontological and utilitarian approaches. Quite well known is the work of Mepham (1996; Mepham et al. 1999), which starts out from the standard opus in the field of medical ethics by Beauchamp and Childress (1994). In this approach, four principles are formulated to resolve the ethical problems of nutrition. The first principle is that of respect for autonomy: respect of the right of choice, which also entails the right to information. The second is that of justice: a fair division of advantages and disadvantages, of risks. The third principle focuses on non-damage: not inflicting damage on human beings and nature. The fourth relates to doing well: contributing to the well-being of human beings and nature, also by avoiding damage.

Mepham (1996) applies these ethical principles via a matrix to food production processes, distinguishing therein a number of participants: consumers, various types of producers, a targeted organism (like animals or crops), and nature in its totality (which he calls biota). He also combines doing well and non damage into the principle of respect for well-being. Even future living beings may be included in the totality. Mepham shows next that, applying these principles, artificial injection of hormones in meat should be banned, and that genetic modification of crops should be rejected, but insists upon the neutrality of the matrix. The targeted user of the matrix is the individual person, who solves an ethical problem altogether on his or her own. The various considerations are presented together as a matrix in the table below.

Table 6. Ethical matrix filled in by Mepham 1996, 106

	Well-being	Autonomy	Justice
Treated organism	e.g. Animal welfare	e.g. Behavioural freedom	Respect for <i>telos</i>
Producers (e.g. farmers)	Adequate income and working conditions	Freedom to adopt or not adopt	Fair treatment in trade and law
Consumers	Availability of safe food, acceptability	Respect for consumer choice (labelling)	Universal affordability of food
Biota	Conservation of the biota	Maintenance of biodiversity	Sustainability of biotic populations

This principles approach involves significant shortcomings (Korthals 2001). In the first place, the principles are ambivalent: they are compulsory in nature, while they are also ideals that we should aim for but can never achieve. Autonomy is something that we should respect, but it also stands for a desired terminus (an ideal

or value) that we can never reach; we can therefore act more or less autonomously. The same applies for respect for well-being and its complement components doing well and non-damage: it is an ideal that we will seldom achieve. The principle of doing well is even more questionable, because it is hardly possible to do well on a universal basis, since human preferences and characters differ so greatly. Non-damage is more entitled, as far as that is concerned, to being called a principle, since it can entail abstaining from any particular action.

The second shortcoming is that, in concrete situations, principles are usually in mutual conflict. They do not tell us what priority each should have, so they ultimately do not help us (plural, because most ethical dilemmas regard a plurality of participants with very different moral orientations) to resolve dilemmas. The principles have an analytical rather than a constructive and synthetic meaning, because they do not aim at fruitful solutions but maximally they allows us to identify ethical problems.

Some adherents of the principles approach, such as Beauchamp and Childress (in their 1994 edition), try to expand the constructive and synthetic aspects by introducing the concept of specification. But very satisfactory this is not, because they classify the synthetic aspects under the category *acta superrerogatoria* (acts that go beyond what principles prescribe like superhuman actions of rescuing people with high risks of damaging the rescuer). However, values and principles are matters that we can expect from acting human beings; they are not exceptional states of mind or positions. A person can obviously not be punished for not adhering to certain ideals (which is possible when a moral principle is violated; see Gert 1998). But adherence to ideals and values is still what makes a person act morally, and thus it is essential to keep that into account.

Beauchamp and Childress thus in fact recognize that principles operate more like a type of heuristic in selecting the really worthwhile ethical issues than as absolute commandments. They help us to look at aspects of specific situations and direct our attention to specific characteristics. But they do not cover the entire sphere of meaningful and fruitful ethical concepts. In applying norms and principles, we always use the dimension of ideals or values, which makes it clear that other ethical dimensions than those of principles are also relevant. On top of that, the ethical issues in nutrition are so complex that the various principles are always at odds with each other or inconsistent.

Sustainability and animal welfare do not always go well together; the same applies for health and animal welfare. With crucial problems, the matrix leads to a stalemate when we do not look further. Bio-ethical problems are so complex and interwoven with so many important things in life that the search for universal and all-encompassing principles is likely to be a dead-end road. In view of the urgency of the problems, it seems a waste of time to work first toward reaching consensus about a system of principles and only then to seek a solution of the problems. It is much more practical to look for ways in which people can solve their ethical problems by deliberating and consulting.

Another issue closely related to this is that the deontological approach holds a detached, even averse view of technology, regarding it as a valueless black box that can be manipulated in any way. The concept is not even mentioned in the book of

Beauchamp and Childress (Keulartz et al. 2002). In that way it pushes ethics off to the side in major technological decisions, because it is not sensitive to the normative force of the various technological routes that are possible (see chapters 8 and 9).

Lastly, the orientation of the deontological approach (and of the Matrix) on the individual person leaving out the social context is problematic: such a person does not have access to all information, cannot all reason out everything, is dependent on experts. Both the individual and the general public must put their trust in a food system that is populated by experts. But trust does not come about by providing information or issuing principles. Trust is founded on transparency, openness, honesty, and responsibility forums, in short on public arenas in which responsible persons render account for their decisions. The other side of the coin is that the deontological or principles approach also does not get a grip on the collective effects (in the long term sometimes harmful) of the decisions of individuals, since it concentrates on individually acting persons.

Concluding, the principle approach is oriented towards individual decision making and not towards public or quasi public discussions and consultations. It is of no help with questions like: who shall we consult and with whom shall we deliberate? According to what framework? What will be the agenda of our consultation? What type of deliberation or consultation (public, representative, quasi-public etc.)? Which consultation is more important? What is an ethically sound discussion anyway, and have we learned from previous attempts of discussions and public consultations and how can we learn from these debates? What to do with severe values and interests conflicts, with entrenched positions? When these questions targeted at social ethical debates are answered, the matrix can be helpful, but only then.

6.3 *Deliberative ethics – debate, values, and trust*

Tackling ethical dilemmas is a process that involves compromise and debates, where not only principles but also values, preferences, and ideals play a role. I have given this approach the sobriquet *applicationism*, the orientation on applications. What it involves is that philosophical ethics has been overly concerned with the justification of principles (such as obligations) and far too little with the altogether different issue of their application (see Korthals 1994; Weston 2000).

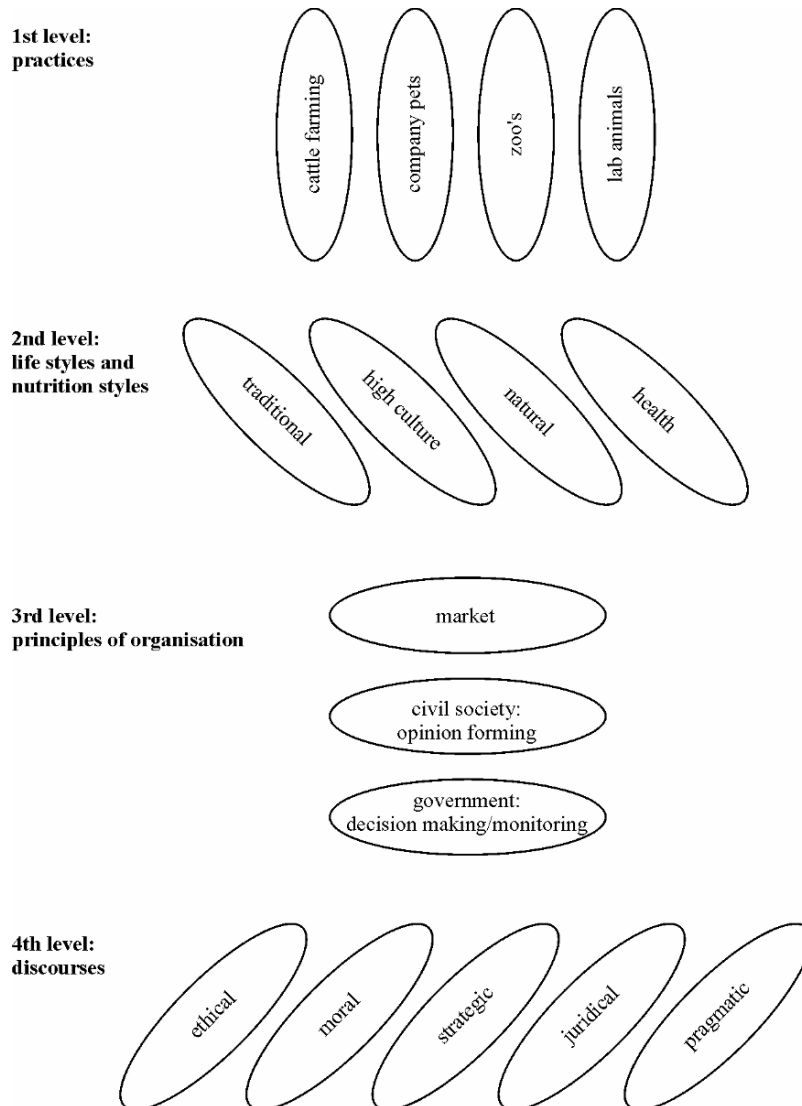
Application-focused orientation thus does not mean that we should simply apply principles; it does not work that way. Applicationism is an extension of the work of ethicists such as Williams, Foot, and Gert, who stress the constructive design of coping with dilemmas. Application requires a constructive viewpoint, an orientation that is altogether different from the justification of norms or the identification and analysis of ethical problems. It implies a focus on the sociocultural contexts of ethical problems, for example via the concept of practice (see chapters 7 and 8). The strong emphasis on the rights and obligations of persons acting as individuals ignores the fact that their rights have limits and that collective implications and presuppositions deserve ethical attention as well.

Consumers and producers may well have a right to information, but they cannot search out, control, and monitor everything themselves. Which information is correct and which is not, which claims are justified, what effects specific foods have: it is impossible for non-experts to determine. When it comes to the boundaries of the autonomy of consumers and producers, impartial and independent institutions and forums that inspire confidence must be at the service of consumers and producers – but those are hardly to be found.

For that reason I would plead for a communicative or deliberative approach, involving all sorts of consultation between consumers and producers (and other parties, such as governments). This would not deal with the development and justification of ethical principles (think of commandment ethics, or an ethic of obligations) but with the development and justification of ethical considerations in the context of a design ethic. Such an ethic does not seek to develop imperatives and prohibitions. Instead, it wants to contribute to guidelines and advice on how to shape major technological developments. The starting point is that technology must not be impeded or prohibited by ethical considerations, but that it is helped in searching out and refining alternatives, and that ethics stays on the scene during the entire technological process, also as a form of post-release monitoring.

The concept of the autonomous consumer is not thrown overboard in this approach but is stretched somewhat. Free choice is shaped in a social context, dependent on meanings, practices, and public forums. The communication process between persons involved involves trust, given on the basis of transparent control mechanisms. The principles mentioned serve in this approach as heuristic tools, not as imperatives. They foster ethical communication but are not an alternative to it. The tripartite society model discussed earlier, the various types of discourse (see Table 4. The relationships between different types of discussions according to Habermas, Chapter 5), the various practices, and the various nutrition styles (Chapter 4.2) serve as a background for the ethical considerations. In figure 1, I have as example selected practices of keeping animals, which will be discussed in the next chapter.

Figure 1. The four-layer model, with the three social structuring principles as the third layer



Every link of the food chain should involve continuous efforts to get deliberation going among the various stakeholders. Consideration could even be given to set up ethical committees with the parties involved in the various links of the food chain, as is done in hospitals and nursing homes. This could serve to restore the necessary trust between consumers and producers. A key role in this is the distinction between

two forms of deliberation, each of which has two tasks. The first involves the formation of intentions and opinions. The other involves decision-making (for example, about standards of safety and health) and implementation, including the monitoring function.

The formation of intention and opinion aims at involving as many people as possible, all of whom should form an opinion. This does not necessarily mean consensus; in fact, dissensus is much more likely. The important thing is that people become involved and commit themselves to a certain opinion. That is why it is called *formation* of intentions.

Decision-making processes and everything that ensues (such as implementation) are focused on a direct and clear end product (that is, a decision); consensus or dissensus of the second order, such as by vote, is essential to that.

The two tasks to be performed are, firstly, identification and analysis of an ethical problem and, secondly, its constructive solution. Either task can take place in the first deliberation phase or in the decision-making phase, but because of the different focus of the two forms of deliberation these tasks get a different content and procedure.

In a matrix it looks as follows:

Table 7. Differences between intention/opinion and decision making processes

	Identification and analysis of ethical problems	Constructive solutions
Formation of intention and opinion	Dissensus	Dissensus
Decision-making and standardization processes	Consensus	Consensus

With regard to the solution of ethical problems, two things are relevant. The first involves the type of solution, the second the status of ethical instructions.

As to the first problem: solutions are always second best and will in that sense satisfy no one. They will often consist of small steps, with the procedure of taking those steps and responding to reactions thereto being an intrinsic part of the solution. We are not talking here of heroic decisions – like Solomon and his sword –, and also not of great battles between good and evil; it is not a matter of all or nothing. The solution chosen is seldom perfect, but trying is important. The care taken in carrying out the solution is what matters, even though we know that care does not solve ethical problems by itself.

Particularly tempting are all-or-nothing types of reasoning, or a *reductio ad absurdum*, or a slippery-slope-argumentation (a type of argumentation that emphasizes that exactly this decision will make the start towards an inevitable downward spiral of moral degeneration). Opposite these easy and usually clouded ways of reasoning is the cumbersome struggle, the give-and-take of a good procedure that considers as many aspects as possible. There is not always an optimal solution for a moral dilemma – and here I get into even more controversial waters,

because the mainstream in ethics believes that such a solution should always be possible (Korthals 2001).

Most ethicists continue to assert that, if you believe that there is more than one reasonable solution to an ethical dilemma, you then end up in relativism, where everything is possible. The comparison is often made between an ethical decision process and archery that targets at one and only one point as well. Aristotle was one of the first, saying: “But there is only one way to be correct. That is why error is easy and correctness is difficult, since it is easy to miss the target and difficult to hit it” (*Nicomachean Ethics*, 1106b).

In my opinion, however, there can often be more than one reasonable solution to an ethical dilemma (see Sueng 1992) without ending up in relativism, the position that it does not matter what you choose. The archer has only one target, but food production involves more than one target. The real art is to achieve a proper balance between the various targets.

The second problem to be kept in mind in solving ethical dilemmas is the nature of ethical reasoning and ethical recommendations. It is doubtful, after all, that ethical reasoning should take an approach where prohibitive duties and commandments play a key role. If the issues are so complex and permanently undergoing change, moreover if pluralism and globalization with regard to nutrition and production processes are so central, then ethical reasoning should concentrate not on prescriptive principles, but rather on ideals and nuances, on breakthroughs to new horizons, on old and modern practices, and on well-considered compromise.

Along with other factors, ethics thus becomes a matter of shaping human existence. It does not forbid things but creates new possibilities. It opens up the view to new relationships and new alliances.

6.4 *Heuristic of ethical reasoning*

In this section I will address a number of focal questions that can be regarded as a tool or heuristic in analyzing and evaluating ethical problems.

1. *Identification of ethical problems*

- What are the facts, who are the parties involved, and what responsible persons, practices, or conventions are involved?
- What norms, principles, and reasoning are involved?

What especially matters in these questions is clear identification of the issues that are morally relevant, and not yet proceeding with the evaluation of the ethical problem. In principle, those involved include everyone who is affected by the problem in one way or another. Those with responsibility include the generally small circle of individuals who take or have taken decisions and thus control the problem. All of these persons have ethical intuitions and opinions, which must be made explicit wherever possible.

2. *Checking new information*

- Is any information still missing, and how can it be obtained?
- In other words, what else do you want to know?

Led on by the ethical question, a search can be conducted into new information, such as the social background of specific persons who hold responsibility, or other forms of information that can help to clarify the ethical problem. It can be useful to investigate which technical controversies in actual fact, which conceptual controversies, and which strictly norm-related ones are associated with the ethical issue. These distinctions tend to blur, but for the purpose of mapping the problem it is useful to try to make such a categorization. If that does not work, that is too bad – but it is worth the effort.

Entire volumes have been written about the distinctness and the interwovenness of values, norms, and facts. It is important to realize, however, that a norm cannot be deduced from a given situation or fact. But even though facts and norms are distinct in this sense, there are also countless ways in which they are interwoven. Searching out the facts, in whatever valid way, is nonetheless quite different from considering norms. Depending on the type of fact and the situation in which the decider finds himself, an appeal may be made to an eyewitness report, one or more experts, a telephone directory, the world-wide-web, or a double-blind investigation.

3. *Ethical reasoning*

The ethical reasoning process can be started on the basis of the utilitarian, deontological, and deliberative context that has been set out. All sorts of combinations are possible, as the related table makes clear. Mephram's Matrix can be useful, especially when it is completed from the perspective of each of the persons involved, leading to as many blueprints as there are persons involved. The disadvantage may be the multitude of information, without this leading to any clarity about the direction in which a solution must be sought.

Next, based on the discussion in chapter 5, a start can be made to answer the following three questions, which serve to make some sort of distinction between the three issues.

- General issues: are there issues that concern everyone? An example is the safety and wholesomeness of food. General issues are formulated most clearly by the deontological and utilitarian approaches.
- Special issues that deserve general attention: are there issues that apply for specific groups (practices, nutrition styles), while should be respected by everyone? Examples are religious convictions, ties of friendship, or standards that belong to practices and nutrition styles. The care, virtue, and contextual approaches express these issues most clearly.

- Special issues that do not deserve general attention: are there issues that apply for special groups but that do not deserve respect from everyone? (For completeness' sake: there are also special issues that deserve general attention, because they apply for special groups while not deserving general respect, such as sadism.)

This division into three categories is the result of the analysis presented in chapter 5. In ethics, issues that apply to everyone are traditionally called universal, while issues that apply only to a limited few are called special. The second category, which I have mentioned here, was the central subject of chapter 5, because in particular ethical issues related to nutrition fall within that category. There is a certain priority-setting in these three issues, although actual practice must make clear whether the priorities as set are actually defensible.

Table 8. Notions of justice and good life in the deliberative perspective

Deliberative perspective	Justice (non-neutral and impartial)	Good Life (dependent on lifestyle)
	Politicians search, via ethical, moral, pragmatic, and legal discussions, for standards, e.g. of safety and health	Coexistence of nutrition styles (and compromise, exchange, common ground)

From a deliberative viewpoint, it is useful to examine whether other value orientations also exist, such as special issues that mean different things to different people, but that nonetheless deserve general respect. In the case of nutrition, this clearly applies to its cultural meaning and the pluralism of nutrition styles.

4. Decisions

- Do the reasoning exercises lead to decisions?

As mentioned earlier, many philosophers including Aristotle believe that only one decision is possible. Personally, however, I believe that differing decisions are quite possible in some cases. When we hit upon two decisions of equal worth, then an investigation can be conducted – provided that enough time and resources are available – into the differences. When solving controversies, there are four possible variants:

1. The contradictory views are relatively easy to solve.
2. No solution can be found, so a form of peaceful coexistence is sought.

3. A compromise is possible. This includes many subvariants, such as: each party moderating its demands, leading to an interim solution; looking for common ground and, based on that, determining whether further discussion and dealing is fruitful; giving up extreme positions, where each party wins some and loses some.
4. New positions are searched for, and new facts or norms are tried out.

These four variants imply different approaches, rules, agreements, and institutional support.

5. *Aftercare of the decision (control and accountability)*

Reaching a decision about an ethical problem does not mean the end of the affair. Max Weber (1964) introduced the important distinction between an *ethics of conviction* and an *ethics of responsibility*. What he means by an ethic of conviction is the ethic where pure intention or conviction is decisive to call an action good. Weber mentions the example of a specific Christian moral position, according to which pure conviction is sufficient: “The Christian acts correctly and leaves the results to God.” The conviction ethicist acts like an aristocratic virtuoso, assuming that he or she is the only one who possesses ethical insight, and shifting the consequences to the social reality, to others. Weber contrasts this type of ethic with an ethic of responsibility. In this ethic there is the readiness to accept responsibility for the consequences of a moral decision and for the ensuing actions.

This distinction has little to do with the earlier distinction between utilitarianism and deontology, for Weber is concerned about the consequences once an ethical decision has been taken. In this sense, a utilitarian can be a conviction ethicist: when he does not show any concern about the negative consequences of the action chosen. The post-decision phase falls just as easily under the ethical deliberation as working toward a decision. What matters in this phase is taking responsibility for unforeseen consequences with regard to persons, practices, and nutrition styles and, pursuant to that, for degrees of accountability.

6.5 Conclusion

A number of cardinal dilemmas related to nutrition have been presented in this chapter, followed a number of approaches to resolve these. I have emphasized that dilemmas can be made bearable. Not by applying a specific principle or approach, but by carefully investigating what drives the various parties, and what is their normative orientation, and then dealing in a deliberative and pragmatic way with the different approaches.

Ethics does not only involve a series of do’s and don’ts, but it can also be helpful in living with nutrition-related dilemmas that have arisen as a result of the dynamism of technology. Important in that respect is that the many layers of social developments are taken into account. Ethical considerations thus become co-designers of technology and of our life in general; they become part and parcel of the daily routine of consciously living human beings. That means a major

contribution both in individual cases and in institutional matters (practices), such as building and maintaining trust. I will expand on this in the following chapters, which deal with the treatment of living beings and the problems related to scientific food production.

CHAPTER 7

WELFARE OF AND RESPECT FOR LIVING BEINGS. MAY WE EAT ANYTHING?

Frankenstein dines with the unicorn. The monster and the mythical animal have finally succeeded, through their remote sensor tags, in arranging a dinner appointment in their compound. They start with Apocalypse Apples, followed by a main course consisting of Last Men's Meat with Creepy Monstrous Sauce. While eating they discuss how humankind came to its end. For dessert they can choose between Frozen Waste or Terminal Disgrace, a cheese board. The unicorn complains about the weight of her unihorn, and the monster consoles her with his hairy pats, as they enjoy their gene-spliced sweets.

All living beings have a common DNA structure. This uniform molecular structure confronts us with the fact that, as far as metabolism and genes are concerned, homo sapiens does not differ from other living beings. Darwin already convincingly demonstrated that, in outer appearance and motivation, we show many similarities to other living beings. But now, through DNA, clear evidence is available that our molecular biological structures are likewise identical. Still, there are also many differences, if only because people keep and use plants and animals instead of the other way around – giving rise to numerous ethical problems.

In this chapter I will start with a discussion of the ethical problems related to plants, followed by those related to animals. Keeping, killing, and eating animals is often justified by an appeal to the differences between humans and animals. For that reason I will discuss the differences and similarities between humans and animals by looking at the status of anthropocentrism and anthropomorphism. Do animals have emotions? Do they have cognitive faculties? Can we avoid anthropomorphism? Must we avoid it?

On the face of it, the distinction between human beings and animals is easy to identify. Further thought, however, soon indicates that we need to reconsider seemingly obvious differences. For that reason, in sections 3, 4, and 5, I will discuss the key ethical issues that relate to animals. Key question number one: may we treat live animals any way we like? Then the cardinal question: may we eat anything? In section 3, I present the opinions of a number of prominent philosophers about keeping and eating animals. In sections 4 and 5, the above key questions are systematically dealt with.

The cardinal question – may we eat anything? – indicates that we are dealing with an extremely complicated issue. Most people in the Netherlands eat the meat of cows, sheep, goats, and rabbits, but they stay far from spiders, cockroaches, human meat, and meat of pets such as cats and dogs. Still, there are people who eat cats or dogs. How awful! We have a clear emotional aversion to eating pets – but why? For what reason is the thought of eating pets so intolerable? Why do some vegetarians

eat eggs but not fish? And why do other people eat beef as part of a curry dish, but not as spare ribs? Because it reminds them too much of the physical beast? Why did vegetarianism start in India around two thousand years ago as a preparation for war (Jha 2002)? In that era there was a positive relationship between killing human beings and abstaining from meat. Does a relationship between killing human beings and not eating meat occur more often than between eating meat and not killing? Unfortunately, the scope of this study does not allow me to discuss all these nuances, so I will confine myself to the key question and the cardinal question above.

7.1 Plants

It all seems so simple. Plants have been around for millions of years longer than human beings – so why would the human relationship with plants not be fully determined by nature? But a closer look shows that it is far from easy to identify what aspects of our association with plants truly originate from nature. Our association with plants is not only determined by natural, economic, and technical factors, but also by cultural factors. Every culture, even the liberal sort, has special ties with certain plants. Some are seen as icons of a culture or as aphrodisiacs. Other plants are regarded as a source of magical power, or – as Simoons shows in *Plants of Life, Plants of Death* (1998) – as a source of evil.

A good example is the attitude towards greenhouses. In the Netherlands it is perfectly normal to grow plants in greenhouses. Even the greatest nature fan has a small greenhouse for growing plants or herbs. But in Germany the situation is different. Even a standard greenhouse there leads to industrial fear. Many Germans consider it improper to grow plants in greenhouses, and certainly not on rockwool and nutrient-rich water. The German composer Richard Wagner (1813-1883) wrote a song about it, *Im Treibhaus* (1858), with the lines:

*Wohl, ich weiss es, arme Pflanze:
ein Geschicke teile wir,
ob umstrahlt von Licht und Glanze,
unsre Heimat ist nicht hier!*

(I know it, poor plant, one lot
we share. Even if we have a crown
of light and radiance around us,
our homeland is not here!)

In the German perception of nature, extensive virgin forests with primeval cattle play an important role; a greenhouse is regarded as an unacceptable intrusion. The Dutch perception is different: since hundreds of years, fruits and vegetables have been cultivated here in greenhouses. The Amsterdam restaurant *De Kas* (The Greenhouse) has even gained worldwide fame because of its tasty fresh products

that come directly from the greenhouse next to the restaurant. Is the welfare of plants impacted by a greenhouse? Or by genetic modification? Where can a plant be affected? Schopenhauer gives an answer:

“The animal is just as much more naïve than man as the plant is more naïve than the animal. In the animal we see the will-to-live more naked, as it were, than in man, where it is clothed in so much knowledge, and, moreover, is so veiled by the capacity for dissimulation that its true nature only comes to light almost by chance and in isolated cases. In the plant it shows itself quite nakedly, but also much more feebly, as mere blind impulse to exist without end and aim. For the plant reveals its whole being at the first glance and with complete innocence. This does not suffer from the fact that it carries its genitals exposed to view on the upper surface, although with all animals these have been allotted to the most concealed place. This innocence on the part of the plant is due to its want of knowledge; guilt is to be found not in willing, but in willing with knowledge. Every plant tells us first of all about its native place, the climate found there, and the nature of the soil from which it has sprung.... Moreover, every plant expresses the special will of its species, and says something that cannot be expressed in any other language.” (*Die Welt als Wille und Vorstellung*, I, par. 28)

Plants have no purpose, no interest, no motive. As such, talking about the welfare of plants, or even their integrity or wholeness, is not very illuminating. Such concepts only gain relevance in a network of other mental and subject-oriented concepts, such as interest, motive, goal orientation, emotions, and more.

Plants are obviously living beings, and their growth points toward a goal – but that is something other than a plant having emotions. The welfare and integrity of plants can only be talked about in a metaphorical sense, as an indication that we may not destroy plants without reason. (But then, what if anything may we destroy without reason?) One of the few studies about “plantworthy existence” does not discuss the inner motives of plants, but our attitude toward plants: we can dominate and control them, we can manage them, or we can feel a bond with them (Kockelkoren 1993).

In *Duurzaamheid en democratie [Democracy and Sustainability]* (1994), I have presented a detailed critique of this attitude approach. It is a Platonic approach that is fully abstracted from the social and cultural context within which people deal with nature. And as to the issue of welfare or integrity, the ease with which plants adapt themselves when pruned, slipped, separated, or improved (an expression of their will to live, in the words of Schopenhauer) is reason to assume that their welfare is not being harmed by such actions. More specific cases, such as intervention in molecular biological structures through genetic modification, are discussed in chapter 8.

7.2 Humans versus animals? Anthropocentrism, anthropomorphism, and zoocentrism

The thinking about the respective roles of human beings and animals on this earth has historically led to many forms of anthropocentrism, the philosophy that human beings are the most important living creatures on earth, and that animals and other living creatures are subordinated to human beings. The Judeo-Christian religious view fully takes this position to this very day, and also in atheistic and humanistic literature it finds common support. The anthropocentric philosophy of Spinoza, for example, has no place for concerns about the feelings of animals (cf. *Ethics*, 5, 37).

Science likewise sharply distinguishes between humans and animals. That is why, in his book *The New Anthropomorphism*, the biologist Kennedy undertakes a crusade against all forms of anthropomorphism in science and against zoocentrism, the elimination of the distinction between humans and animals, such as propagated by Masson and McCarthy in *When Elephants Weep. The Emotional Life of Animals*. According to Kennedy, anthropomorphism is an old vice that, in a new outfit, is increasingly tolerated these days, as evidenced by the growing scientific interest in animal consciousness. Many respectable veterinary scientists nowadays study the cognitive and other mental phenomena of animals without any awareness of the pitfalls of this new anthropomorphism. The scientific quality of their work is seriously impacted as a result, just as in the 1950s and 1960s – scientific observations of animal behavior are loaded with human projections, so that these observations can hardly be called objective.

Kennedy regards the inner nature of animals as a black box; in that sense he is a behaviorist. In his view there is a wide gap between human beings and animals, as evidenced by the fact that the inner nature of human beings is *not* a black box. In that sense he is from being a behaviorist. This gap is his principal argument for rejecting anthropomorphism.

To evidence the gap between animals and the uniqueness of human beings, Kennedy appeals to the theory of evolution (cf. Rosenfeld, 1993). The transition to *homo sapiens*, he says, manifests few quantitative differences; in genetic terms, a human being and a chimpanzee differ by only 1.6% (Dawkins 1993). However, a relatively small number of genes (1.6% is still a hundred thousand) can in some cases have major impact, so that large qualitative differences arise. The growing size of the brain of hominids goes hand in hand with the gradual rise of culture. At what exact stage the watershed took place is not clear, according to Kennedy. Most likely, however, the origin of consciousness and of grammatical language skills represents major marking points.

Since Kennedy rejects anthropomorphism, he needs an explanation – as the evolution theory is his starting point – for the human tendency to keep falling into the pitfall of anthropomorphism. He gives no less than two explanations. The first is empathy, an evolutionary product that enables us to predict and understand our fellow human beings better. We use our capacity to empathize improperly, however, when we apply it to non-human beings or objects. Since only human beings have consciousness, there is nothing for animals to be conscious of. Applying human

empathy to animals is a misleading byproduct of evolutionary adaptation. Kennedy calls this genetically incorporated anthropomorphism.

The second explanation for the deception of anthropomorphism appeals to cultural factors. According to Kennedy, anthropomorphism has become part of our language. Our intuitive tendency to empathize has grown linguistic roots, but this can be purified and corrected through critical and scientific language use. Thus, instead of saying that an animal consciously searches its surroundings, we should say that it *scans* its surroundings. It has no intention movement but an incipient movement; it does not intend to move but begins to move.

What drives Kennedy is to keep science as objective as possible by ridding it of expressions of feeling. He also alerts animal researchers to the scientific frugality principle: explanation of behavior by means of phenomena that occur at a lower level must rank above explanations that refer to a higher level (cf. Harrison 1991). Since mental events are at a higher level, scientists should first examine whether a behavioral phenomenon can be explained by simpler reflexes, stereotypes, and conditioning, in other words, by mechanisms where mental action is superfluous.

Based on the frugality principle and the view that there is a gap between human beings and animals, Kennedy concludes that animal emotions do not belong to the domain of science. Both ontological principles assume fundamental and irreconcilable gaps between the essence of human beings and of animals.

Critique of customary differences between humans and animals

Kennedy's reasoning is problematic in many respects. In the first place, he regards emotions as phenomena of consciousness at a higher level. Evolutionary theory provides little support for that position, however. According to recent insights, the principal emotions of human beings reside in one of the oldest parts of the brain, which for that reason is sometimes called the "reptile brain". Many animals share this brain with us. To have emotions does not require highly developed cognitive processes; emotions already operate at a lower level.

Secondly, Kennedy applies the frugality principle in a very selective way. After all, the principle of frugality has still another aspect, one that is altogether evolutionary by nature. This entails that, if two species are genetically related, then their behavioral similarities are the result of neurological homology. In such case, it is quite probable that the underlying processes of the species are likewise similar. The alternative is quite unlikely, since it would imply that, within the evolutionary process, divergent processes lead to similar behavior.

It is quite unlikely, for example, that tigers and lions have not evolved within the same evolutionary process, just like chimpanzees and human beings. If humans and the large anthropoid apes (chimpanzee, bonobo, and gorilla) show similar behavior, while this does not occur among other apes, then one explanation can suffice for the behavior of both. Thus, if human beings evidence complex cognitive skills, it is not unlikely that these skills also occur among the large anthropoid apes. We should not immediately draw conclusions from this, but the possibility should at least be examined (De Waal, 1996, pp. 64-65). De Waal thus examines in his book whether certain aspects of human empathy and sympathy also appear among the large anthropoid apes and other animals.

Thirdly, it is doubtful that the frugality principle would fully apply to emotions and to the evolutionary process. There are many emotions that do not have a directly adaptive function (Rosenfeld, 1993). Their existence cannot be denied, but their evolutionary function is unclear – either because the available evolutionary explanations do not yet suffice, or because these emotions indeed have no adaptive function.

In *The Expression of the Emotions in Man and Animals* (1872), Darwin develops a number of principles for the study of the emotions of animals. Some of these take the non-adaptive function of emotions explicitly into account. For example, he illustrates the principle of antithesis by the cheerful dog that greets his master: the dog wags his tail, and the rest of its body also expresses excitement. This behavior is exactly the opposite of a mad dog who responds to an unfamiliar person: the dog keeps its back straight. The behavior of the mad dog is meaningful in an evolutionary sense, for example in a fight, but the behavior of the cheerful dog has no evolutionary meaning.

The adaptations chosen are also not necessarily the most optimal. In evolutionary processes there is great variety, and the ultimate choice among the many variations depends on so many factors that the best is not always selected.

Evolutionary theory thus shows that the ontological thesis that fundamental differences exist between humans and animals must be regarded as problematic at the least. Human beings have unique characteristics, just like any other species, but their anatomic, physiological, and psychological characteristics belong at the same time to a common heritage. The behavior, the underlying brain structures, the anatomic features, and the quantity and quality of the genes of *homo sapiens* show many similarities with certain animals. Furthermore, it is useless to regard all animals as identical; the leveling of animal species with regard to emotions that Kennedy advocates is thus hardly fruitful (cf. Gould, 1993).

Animal species differ significantly from each other in their emotional baggage. The evolutionary differences among the species thus contradict Kennedy's thesis of an emotional flatland of oversimplified ideas about the lack of emotions among animals.

The way Kennedy applies the ontological principles mentioned also has the great drawback that he denies the possibility that researchers may have epistemic considerations to allow subjective terms. One of these is that it is practically unavoidable to use intentional language. If we needed to describe observations such as "the animal stalks its prey" or "the male courts the female" with more objective terms, that would only be more cumbersome and sound pedantic. Even in everyday life we can be sure to recognize some of our own emotions in the behavior of animals.

When a cat purrs when sitting on my lap, is it wrong for me to ascribe to it a feeling of satisfaction? When it next jumps up and, hissing at the neighboring cat, chases it out of the yard, am I mistaken when I see in its behavior a sign of aggression? Potential errors can only be corrected on the basis of more successful observation of other feelings of animals or, in a broader sense, on the basis of regular contact with animals. It seems furthermore unlikely that animals would have

no emotions at all. Various well-known veterinary scientists study the inner being of animals. What do they think of anthropomorphism?

The critical anthropomorphism of De Waal and Stamp Dawkins

De Waal's book *Good Natured* is full of observations about animal behavior and reflections about the inner life of animals. He is convinced that anthropomorphism is a good means to acquire knowledge about animals. According to De Waal, the times they are a-changing: scientific interest in the inner life of animals is returning. Animals are no longer regarded in the Cartesian manner; they are not robots. However, we should not act as if humans and animals feel the same; anthropomorphism cannot replace science (De Waal, 1996, p. 63).

According to De Waal, some forms of anthropomorphism are acceptable in science, provided that they are used critically. Anthropomorphism is a means to gain knowledge, that is, critical anthropomorphism must be able to come up with ideas that are subject to testing and with repeatable observations. The use of all sorts of knowledge sources must be encouraged. Those include, according to De Waal, thought experiments, anecdotes, personal feelings, or imagining that I am an animal. These must then lead to predictions that are subject to testing.

Another well-known animal researcher, Marian Stamp Dawkins, takes an even more radical approach in her book *Through Our Eyes Only? A Search for Animal Consciousness*. She presents both the skeptical and the gullible reader with her theory – vague as it is – about animal consciousness. She then subjects all sorts of hypotheses about animal behavior that point to animal experiences and emotions to critical falsification tests. Invalid evidence is unmasked that way, such as data that are based on the “clever Hans effect”. This is the phenomenon named after the smart horse Hans, which seemed able to count with its hoofs, but in fact responded to the manual counting method of his master; when his master made a counting error, Hans was unmasked.

Stamp Dawkins also subjects alternative hypotheses from the behaviorist school to critical testing. Her theory about animal consciousness is not directly verified by facts. It does, however, become plausible through the elimination of explanations that come all too easy, or of alternative hypotheses that seek to disprove phenomena of animal consciousness with stimulus-response, reflex, or stereotype models.

De Waal and Stamp Dawkins are not so much interested in the ontological issues of the differences between humans and animals, but in the benefits in terms of epistemology or philosophy of science that a cautious anthropomorphism can provide. When they stress that subjective terms can definitely be heuristically relevant and useful in explaining animal behavior, they do not exclude differences, as Masson and McCarthy do. The epistemic discussion is not closed by ontological assumptions, but rather stimulated.

The tendency exists to regard anthropomorphism as an extension of anthropocentrism, the view that we human beings stand at the center of nature and may fully apply nature to our personal benefit. The opposite is the case. Anthropomorphism arises as anthropocentrism ebbs away. Only when animals are no longer taken for granted as creatures for human use, such as in agriculture, does interest and sensitivity for what goes on inside animals arise and does the temptation

of anthropomorphism lie in wait. Empathy for the subjective experience of animals – anthropomorphism – and the criticism of it do not by definition coincide with anthropocentrism. The use of and the criticism of anthropomorphic terminology more likely arises as anthropocentric thoughts ebb away.

The complex relationship between anthropocentrism and anthropomorphism is evident from the impressive study by Keith Thomas. He shows that the interest in the subjective experiences of animals arose in England when the cities became dominant and when, aside from the use of farm animals for food production and transport, pets started to be kept in the homes. At the same time, with the rise of mechanical energy, the human dependency on animals to generate energy and as a means of transport declined. “The new feeling was first expressed by the richer city people who, far removed from agriculture, were more inclined to view animals as pets rather than as production animals; or by well-educated clergymen who nourished entirely different feelings than the surrounding country population.” (Thomas, 1984, p. 183) Before admitting that animals can have feelings, people must first take a certain distance from the traditional view of the animal, so that it is no longer regarded strictly as a beast of burden and an instrument for human use.

This distancing must not be taken too literally, as if it were an abstraction process. In concrete terms, it means that a new practice arises, that of keeping pets. In this practice, people keep animals in a different way: they feed them, they care for them by combing and washing them, they take them out. Animals respond to all this attention, and people respond in return: a new practice grows. Taking part in this practice implies keeping distance from another practice, that of agriculture. The end result of this new relationship is that we become sensitive to the subjective experiences of animals in the context of the new practice.

Presenting numerous examples, Thomas shows that many animals that have similarities to human beings, but also other animals such as flies and spiders, are regarded in this new practice as creatures that have feelings and that suffer. In eighteenth- and nineteenth-century England, even religious feelings were ascribed to animals. That is when the reproach of anthropomorphism arises, a reproach that can only arise when anthropocentrism, in the sense of the instrumental treatment of animals, is already on the decline.

The appropriateness of the concept of “practice” in this context is that no appeal needs to be made to dubious concepts such as direct observation or introspection, which proponents of animal experiences such as Masson and McCarthy apply. We only need to focus on the long-term process of the gradual alignment of material conditions, social relationships, and conceptual aspects via the interaction between humans and animals. Differences and similarities between humans and animals thus depend on the various practices wherein people deal with animals. I will discuss this in greater detail in section 5 of this chapter.

7.3 Some of my best friends eat meat. Philosophers about eating meat

Keeping animals as a source of food has, historically and socially, been the prevailing pattern. In all early civilizations, the consumption of animals, just like all

food, is surrounded by religious rites and is directly linked to sacrifices. In the case of meat, the slaughter of animals and everything associated with this is clearly a source of tension, which incites the religious imagination to all sorts of rituals. Not eating meat comes up very slowly, not until around 500 BC, especially in India where it is a sacrifice for warriors in their preparation for war. Vegetarianism is historically a ritual that accompanies the killing of humans, as Jan Heesterman (2002) shows in his interesting study about the conflict between killing sacrificial animals and abstaining from violence. Vegetarianism is generally accepted only much later, in Hinduism, where this practice is sung loose from its original ritual function. Here are some quotations from well-known philosophers who all enjoyed meat.

- Yajñavalkya (Vedic Hinduism, around 900 BC): “I eat beef as long as it is juicy.”
- Aristotle: “Plants exist for the sake of animals (...) all animals exist for the sake of humankind, tame animals for the use that humans can make of them in connection with the food that they provide. (...) When we are right in believing that nature makes nothing without a purpose, nothing without a final purpose, then it must be that nature has made all things specially for humankind.” (*Politics*, Book 1, chapter 8, 1256b)
- Thomas Aquinas (1225-1274): “Just like in the creation of the human being there was first a living being, then an animal, and finally a human being, so also things such as plants, which only possess life, exist for animals, and animals in turn exist for human beings. (...) That why it is justified to take the life of plants for the use of animals, and the life of animals for the use of human beings. ‘Every living and crawling thing shall provide food for you.’ (Genesis 9,3)” (*Summa Theologica*, p. 35)
- Montaigne: “There is something like a certain respect, a general obligation, towards humankind, animals with life and feeling, and even trees and plants. We owe justice towards humans and grace and friendliness towards other beings. (...) They and we have a common interest. (...) When I play with my cat, who knows whether I am not a toy for her as much as she is for me? We amuse each other at equal footing. (...) There is a certain respect and human obligation that binds us not only to animals with life and feeling, but also to trees and animals.” (*Essays*)
- Spinoza: “From this it is clear that a law that forbids animals from being slaughtered is founded rather in idle superstition and womanly pity than in sound reason. Reason does teach us that it is useful and even necessary to bind us with other people, but certainly not with animals or with other things; we have much greater rights to them than they have to us. Yes, since the right of any person is determined by his virtue or his capacity, for that reason humankind has a much greater right to animals than animals have to humankind. I do not dispute that animals have feelings; I only dispute that it is therefore forbidden to use and treat them according to our purpose as it suits us best, because by nature they do not correspond with us, and their affects differ

by nature from human affects.” (*Ethics*, part 4, thesis 37; see the note to thesis 57, part 3)

- Kant: “When it is assumed that human beings must live on earth, then at least the means without which they cannot exist as animals or even as reasonable animals (in whatever low degree) must not be lacking. Therefore, those things in nature that are indispensable for this must be regarded as objectives of nature. It is clear from this that the external suitability (the appropriateness of a thing for other things) can only be regarded as an external objective of nature on the condition that the existence of that which is adjusted first or in a removed manner is objective of nature for itself.” (*Kritik der Urteilskraft*, p. 356; cf. Kant, *Werke*, Part 10, p. 315)
- Kant once more: “What then are these herbivorous animals for? The answer could roughly be: for the predators, the animals that can only feed themselves with what is alive. Finally the question: what is the purpose of the other domains of nature? For man, so that he can use all those creatures in ways that his intellect has taught him, for he is the ultimate goal of creation here on earth. Since he is the only being on earth that can conceive an objective, and that using his reasoning capability can make a system of objectives from an aggregate of purposefully formed things (...)

In keeping with Linnaeus, one might also go the apparently opposite way and say that herbivorous animals exist in order to temper the rampant growth of the world of plants, which causes many plant species to suffocate. Predators are intended to limit the voracity of those plants. Lastly, there is the human being who, by hunting and reducing the number of predators, brings about a certain balance between the producing and disturbing forces of nature. And in that way, the human being, regardless of how he might be regarded in some way as objective, would yet in another way have the ranking of a means.” (*Kritik der Urteilskraft*, p. 459; cf. Kant, *Werke*, Part 10, pp. 383-384)
- Nietzsche: “But vegetarianism also has more subtle effects, involving manners of thinking and feeling that have addictive consequences.” (*The Gay Science*, 1974)
- Also Schopenhauer is a convinced meat-eater, despite his love of animals and his appreciation and respect for them. He states quite clearly that, in temperate and cold climates, humans must eat meat: “Just like the dark color is natural for man, so also is vegetarian food natural for man. But just like his color, so also to his food he remains faithful only in a tropical climate. When the human race spread over the colder zones, it had to take to food that was just as unnatural for it as the climate was unnatural. In the Northern regions one cannot live without meat at all. I have been told that in Copenhagen a prison sentence of six weeks on water and bread – carried out in the severest manner and without exception – already is a risk to life. Man has thus become white and carnivorous at the same time.” (*Parerga und Paralipomena*, pp. 174-175)

Schopenhauer’s reasoning is obviously quite unusual, but it makes clear that his respect for animals was not principled and fundamental: human beings may kill

animals and eat them because in that way can they survive in temperate and cold climates. Of course, the empirical correctness of this reasoning may be questioned. But it shows that respect for animals and plants does not imply that human beings must respect animals and plants in the same way that they treat human beings.

7.4 Does keeping animals imply caring for them?

When keeping animals, in what way may we then really keep them? Many animal ethicists believe that the natural habitat must serve as a guideline: the habitat that animals would have had before they came into the hands of human beings. Basing themselves on this natural habitat, they prepare ethical guidelines without looking at the circumstances under which people keep animals. Principlism dominates also in animal ethics, often with total abstraction from the sociocultural context within which animals are kept. I will firstly present a critique of these premises. Next I will propose a different approach, a pragmatic one that follows the line of the ethical intuitions set out in chapters 5 and 6.

I will firstly demonstrate that the relationships between humans and animals are culturally defined; that little is natural to such relationships; and that this also applies to the relationship between human beings and wild, semi-wild, and partly domesticated animals. I will show that the category of wild animals, free from human intervention, is practically untenable, as it really refers to a border concept. Obviously human beings have not determined the lines of descent of animals, but in other respects we have manipulated the entire earth in such a way that there are hardly any wild animals left. All wild animals have adapted themselves more or less to human interventions.

Next I will show the various dilemmas of keeping domesticated and wild animals, and animals that are introduced back into the wild. In that context, I will especially consider the other requirements that relate to our involvement with nature, such as those related to the environment and to the health of humans and animals, as well as aesthetic and cultural requirements. These dilemmas call for a deliberative ethic of responsibility (see chapter 6) with regard to animals, that takes the effects of ethical decisions for all parties involved into account. I will thus argue that, with regard to domesticated animals, the reference to a natural habitat is inappropriate since their present characteristics differ completely from their predecessors, and since it ignores the capacity of animals to adjust.

I will next argue that a pragmatic approach of multiple animal practices fits best with these considerations. In these practices, animals are kept in various ways, leading to the development of specific ethical standards. These are not sacrosanct in themselves, but they can serve as a starting point for a fruitful ethic that takes into account the sociocultural context within which people keep animals. It is essential that the ethical standards applied in these practices are screened and improved.

The benefit of this approach is that the diversity and dynamics of the context within which people deal with animals are taken into account. It is thus basically an inductive approach; it does not start from abstract principles and values but departs instead from ethical intuitions that are embedded in different social contexts. Much

ethical confusion arises because we unconsciously transfer the standards of a specific context or practice to another context or practice. That in itself is acceptable, since it fosters a dynamic. But it implies the possibility of ethical confusion. The approach described can reduce this confusion.

Animals in a changing context of domestication

Modern technology and the social setting are changing the habitat of both humans and animals at a tremendous pace. Many new contexts are coming about, within which people and animals interact, and often it is far from clear what ethical standards should apply to the treatment of animals in the new situations. New zones are introduced between domestication and non-domestication. The reintroduction of farm animals, such as long-haired cows and horses, into the wild shows that de-domestication or wilderness processes are also taking shape.

This also shows that wilderness is a social construction; it takes great effort to create an area and keep it intact, to maintain the continuous illusion of wilderness. In these situations, which can be found throughout the world, animals show a great capacity to adapt, both in situations of greater and of lesser freedom. It has always been that way. Experts in the field of population biology have demonstrated that domestication processes have been started just as often by animals as by human beings; apparently some sort of mutual support has always existed (Dubiansky, 1998; Caras, 1996).

In addition, as a result of globalization (chapter 9), there is no natural situation for animals. Depending on the context, a specific animal can be treated both as a wild animal and as domesticated, without loss of welfare. All these intervening factors – along with the lack of a clear natural reference – make it difficult to provide easy solutions for animal-ethic problems.

1. Dilemmas of relations between humans and animals

I will briefly repeat the typifying characteristic of dilemmas, as discussed in chapter 6. A dilemma involves two or more moral strategies that are irreconcilable with each other and the possibility, based on proper arguments, of choosing for either strategy. At the same time, the choice of a particular strategy and the rejection of the other creates, at first appearance, moral loss.

The individual animal does not look after its own welfare

Some dilemmas arise because nature simply does not obey ethical directives. The killing of infants or siblings often occurs in nature, but it will not meet with approval from morally acting persons. Chickens, for example, will eat each other under certain conditions, even when they range about freely. Wolves kill those cubs in their pack that they consider weak. Many animals show hardly any interest in their own welfare. They chew on stones, swallow them, or do other dangerous things. (For more examples, see Broom, 1991.)

These individual animals do not look after their long-term interests, since they cannot distinguish between long-term and short-term needs. The first dilemma is

thus whether we should leave nature (or evolution) to be, or whether we should care for individual animals from a certain human viewpoint of animal welfare.

2. *The welfare of individual animals is often at variance with that of the species and/or the ecosystem*

This second dilemma is of a different type: it involves the tension between individual and collective welfare. An individual animal may clearly be in need of help, such as in a wildlife or nature reserve. But helping a single animal may harm the structure of the herd and endanger its chances of survival (or even the ecosystem) in the long term. This is the central issue of the study *Born to be wild* about the treatment of animals in the Oostvaarders lake district in the Netherlands, conducted by the chairgroup of Applied Philosophy at Wageningen University (Klaver 2002). In this study and in follow-up research, we have made clear that, at first appearance, this is a serious dilemma.

3. *Free ranging of cows, chickens, or hogs is often at variance with environmental and health requirements*
4. *The integrity of farm animals is sometimes at variance with improvement through genetic modification*

Dilemmas 3 and 4 and more general dilemmas involving livestock are related, on the one hand, to the care for animal welfare and, on the other hand, to the environment and the quality of life in the countryside. At this moment, intensive livestock farming is leading to an excess of harmful minerals in the soil and in water; it also contributes to acid rain, which destroys buildings and nature. To restructure the current situation, an organic or extensive approach can be opted for, in which cows, hogs, chickens, and other farm animals rummage freely, a situation that clearly benefits the welfare of the animals. But organic livestock farming will not solve the problem of phosphates and other manure issues, certainly not with the livestock volume that we have in the Netherlands.

Also on a worldwide scale, organic livestock farming requires much more space, while it may be argued whether such space is available, considering the growing world population. There are serious doubts as to whether organic livestock farming can serve global needs. Intensive livestock farming is a potential approach (Hodges, 2000), but the new forms of intensive livestock farming (which are often impressive in terms of environmental benefits) can also be harmful to animal welfare.

Intensive livestock farming does not have sufficient land at its disposal for the natural absorption of manure, but technological innovations with regard to animals and their accommodation can solve this problem. Underground forms of accommodation might improve the landscape or even leave it untouched. But once again, animal welfare is likely to suffer from this intensive form of livestock farming. The animals cannot rummage freely, meaning that one of the five freedoms

that The British Royal Society for the Prevention of Cruelty to Animals considers necessary is not realized. The standards of *Compassion in World Farming* are even higher (RSPCA, 1999; CIWF, 1999). The choice between environmentally responsible farming and animal-friendly farming is a difficult one – and not always do the two go together.

5. *Genetic modification of animals can benefit the environment*

Biotechnologically modified animals can lead to significant gains from an environmental viewpoint. Cows and hogs can be modified genetically in such a way that they no longer represent a threat to the environment. At the same time, however, these technologies cause great doubts, fears even, in view of the risks to animal and human welfare. According to many, furthermore, the respect for the integrity of the animal (whatever that may be) is put at risk. Crops also, it is claimed, can be modified genetically so that their nutritional value is increased.

As stated earlier, dilemmas can never be really resolved. They will always involve difficult considerations, with many disparate losses and benefits, and no utilitarian calculation will resolve them. They involve tragic choices, which from a certain viewpoint will always be wrong, yet they are unavoidable. In addition, there may be more than one reasonable answer, even though there is not a best solution. In the rest of my discussion, I will point out that these dilemmas cannot be solved by applying principles and distilling a concrete guideline from them (Korthals, 2001). Next I will again use the pragmatic responsibility ethic that has been presented earlier as a guide for a fruitful discussion of the dilemmas.

Customary animal-ethic theories

How do the various animal-ethic theories tackle the above dilemmas? Do they come up with plausible solutions, and do they take the effects of these solutions into account?

There are at least four types of animal-ethic theories, each with its own perspective. These perspectives are: animal rights, nature-integrity, animal ethics from an environmental perspective, and, lastly, animal welfare. The first three assume a certain pre-human, natural environment, which may serve as a reference point for the determination of the welfare of animals. The fourth perspective hesitates between a purely natural and a social (human) reference point.

The animal rights perspective

Tom Regan, author of *The Case for Animal Rights*, is the most influential and most thoughtful defender of the argument that animals have rights. He links his argument to the thesis that animals may not be used as a means for other living beings. In his view, every living animal is an experiencing subject of a life with an equal and inherent value: “All have inherent value, have it equally, whether they be human animals or not.” (Regan 1985, p. 23) A key aspect of this perspective is the distinction between possessing rights (which implies that one may not be used) and being a means for something or someone. In that way the discussion, for this

perspective, about domestication and about how animals that are subject thereto must be treated is already concluded.

“As for commercial animal agriculture, the rights view takes an abolitionist position. The fundamental moral wrong here is not that animals are kept in stressful close confinement or in isolation, or that their pain and suffering, their needs and preferences are ignored and discounted. All these are wrong of course, but they are not the fundamental wrong. They are symptoms and effects of the deeper, systematic wrong that allows these animals to be viewed and treated as lacking independent value, as resources for us – as indeed, a renewable resource.” (p. 25)

Regan makes the all-or-nothing distinction, the gap, in other words, between being used as an instrument and having rights in the sense of being a goal in itself, and nothing in between. That makes his perspective rather useless for an answer to the question of animal-friendly livestock farming and for the resolution of the dilemmas that I have sketched. He does not take into account that, if all animals have equal rights, predators such as wolves and lions should convert into decent human beings, and that they should not be permitted to kill other animals. What is more, many domesticated animals are dependent on us; we cannot simply dispose of them.

So the question again arises: what do we do with them? Regan’s position provides little help towards an answer. He can provide better insight into the fundamental equality of humans and animals. But that does not imply that they should be treated in the same way.

Nature/integrity approach

This perspective emphasizes the genetic integrity of animals, making this the basis of an ethical valuation of the way in which people should treat animals.

“In biotechnology the genetic integrity of the individual animal and of the species is central. We can define the genetic integrity of the animal as the genome being left intact. This seems to be a meaningful notion in view of the fact that we clearly point out some factors or actions by which the genome would not be left intact.” (Vorstenbosch, 1993; see also Rolston, 1988)

The genome of a living being is viewed as an unchangeable quality that is intrinsic to the identity of an animal. It obliges people to refrain from all intervention in the genetic profile. Respect for the genetic profile of animals implies that many traditional types of breeding should in fact be forbidden. But at the same time it forbids the genetic treatment of hereditary illnesses or other disorders that can plague animals. This approach in fact fixes the status quo, even though the current genetic profile of animals is far from ideal.

This perspective is thus not very conducive to the solution of the ethical dilemmas. It provides no insight into who may have an interest in these dilemmas,

and it does not concern itself with the consequences of a policy that is implemented on the basis of this perspective, namely the continuation of a sometimes miserable status quo. With regard to the first two dilemmas, this position furthermore takes an outsider's perspective, in that it excludes the perspective of the individual animal. This perspective in fact endorses a genetic determinism, because it equates the genome of an animal with the identity of the animal.

Animal ethics from an environmental perspective

The third perspective differs radically from the first two, since it reserves a central place for ecosystems. Eric Katz is a well-known representative of this perspective. In his book *Nature as Subject. Human Obligation and Natural Community* (1996) he takes a holistic view with regard to nature and the living beings that participate in it. In chapter 6, which has the surprising title 'Defense of the use of animals by commerce versus the animal liberation front', he argues that environmental ethics and animal liberation theories – which operate from the first, second, and fourth (yet to be discussed) perspectives – are fully reconcilable moral doctrines.

Katz defends an ecological holism: agribusiness is justified as long as it does not violate the requirements of ecosystems. He criticizes the perspective of the animal liberation front because he considers speaking about rights from an ecosystem perspective to be "nonsense". The prohibition against pain and suffering is unrealistic and not enforceable, since pain is necessary to keep the ecosystem in balance. Animal liberators argue that marginal people – children, the handicapped – are taken altogether serious as individual persons, so animals must likewise be taken seriously, for example as moral subjects rather than as morally acting creatures. But this argumentation, Katz states, is both invalid and empirically false. I do consider the position of Katz to have value – the amount of suffering in nature is staggering. Richard Dawkins writes in his book *River out of Eden* (1995, p. 115):

"The total amount of suffering per year in the natural world is beyond all decent contemplation. During the minute it takes me to compose this sentence, thousands of animals are being eaten alive; others are running for their lives, whimpering with fear; others are being slowly devoured from within by rasping parasites."

The problem with Katz's approach to ecosystems is that he fails to clarify what determines the identity of a system, and where the boundaries with regard to other systems lie. What criteria do we apply to call a system an ecosystem, one that differs from other ecosystems? And how do we justify those criteria? Why would an intensive agriculture ecosystem, a radioactive ecosystem, an area that was initially green and then eroded, or a salt desert not be ecosystems just the same? In other words, the approach does not take into account that human beings set the criteria that determine what counts as a system, and that those criteria cannot themselves be justified by founding them in that specific system – for such a foundation is circular. More in general, the dilemmas are ignored by this approach. As such, it provides no help in resolving them.

Welfare theories and quality-of-life approaches

In the welfare approach, the welfare of individual animals or of a group of animals is central. Rollin (1995; 2000) and Sandoe (1999), two well-known representatives of this approach, emphasize the dynamism of the species, contrary to the integrity or nature approach. They recognize that the genome of living beings can change and that, for welfare reasons, even the genetic profile of an animal or an animal species may need to be changed.

A sympathetic aspect of this approach is that it starts out with the welfare of the individual animal; in that way it differs from the environmental ethics approach. In general, a combination of physiological, behavioral, and mental parameters of welfare is maintained, which may, for example, stand for stress (Broom 1991). According to Rollin (2000), this animal ethic can count on broad social consensus, with the need to prevent suffering as the most important feature. Rollin speaks in a non-Aristotelian manner about the *telos* of an animal species, thereby emphasizing its dynamism. He thus partly considers the changing context between humans and animals in his considerations.

It is not quite clear to me how this approach would resolve the first and the second dilemmas, because it starts out from the individual animal and does not discuss the relationship between individual and collective welfare. The third and the fourth dilemmas, however, can be significantly resolved through this approach.

Practices of human-animal relationships

The animal rights, integrity, and welfare approaches all recognize the ethical principle that animals deserve serious attention. The first approach in particular heavily emphasizes this principle, the other two somewhat less so. In the deliberative and pragmatic animal ethic that I develop here, I will link up with the welfare approach of Rollin and incorporate, more than he does, the relationship with natural, ecological, and social factors into the core of the theory (Warren, 1997; Korthals, 1999).

The only ethical theory that accounts for the cohesion between, on the one hand, natural, ecological, and social factors and, on the other hand, ethical factors is the theory of pragmatism that is propagated by philosophers such as John Dewey. Dewey emphasizes the provisional, the experiential, and the experimental character of ethical solutions. In his book *Experience and Nature* he writes: "We need a cautionary and directive word, like experience, to remind us that the world which is lived, suffered and enjoyed as well as logically thought of, has the last word in all human inquiries and surmises." (1951, p. 372)

The world has "the last word". This does not mean that humans are passive beings – on the contrary. They are constantly working to construct and transform the world, by speaking to each other and acting, and all this leads their views and standards to change. Dewey emphasizes this productive character of ethics in *The Quest for Certainty*:

"In reaction against the age-long depreciation of practice in behalf of contemplative knowledge there is a temptation to simply turn things upside down. But the essence of pragmatic instrumentalism is to conceive of both

knowledge and practice as means of making goods – excellencies of all kinds – secure in experienced existence.’

Alasdair MacIntyre has further developed the notion of quality and excellent goods in his book *After Virtue* (1981). Here he defines practices as social and normative contexts within which qualities come about: “A practice involves standards of excellence and obedience to rules as well as the achievement of goods.” (p. 190) MacIntyre’s views cannot be called pragmatic as such, but his historical view of practices corresponds with the pragmatic view of Dewey:

“Practices of course have a history: games, sciences and arts are subject to enormous changes. Thus the standards are not themselves immune from criticism, but nonetheless cannot be initiated into a practice without accepting the authority of the best standards realized so far.” (p. 190)

MacIntyre is not always fully consistent in his definitions of practices, but the following is a useful definition:

“By a ‘practice’ I am going to mean any coherent and complex form of socially established co-operative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended.” (p. 187)

Contrary to Dewey, MacIntyre ontologizes the analytical distinctions between practices, and he loses sight of the fact that they are mutually dependent and influence each other.

The concept of practice is nowadays used productively in scientific research (Rouse, 1996). It implies that material, conceptual, and social sources are changed or modeled in a long-term process of knowledge production without a clear final goal. The particular novelty and fruitfulness of this lies in two aspects. Firstly, material aspects such as equipment, accommodation, and means of transportation are just as important during the production of knowledge as social sources and cognitive impressions, ideas, and concepts. Secondly, an acceptable knowledge product only comes about in a continuous process of transformation, in which the three above sources permanently change through continuous fine-tuning and tinkering. Concepts thus keep getting adjusted in response to the social and material sources, and vice versa.

Applying this practice concept to our involvement with animals means that not only material aspects such as accommodation and care constantly change in response to each other, but also conceptions about the nature, the subjective experience, and the welfare of animals, as well as the social rules related to their treatment and further processing. The fruitfulness of the concept of practice means that no appeal needs to be made in this context to dubious concepts such as “direct

observation”, “introspection”, or “natural reference” (first, second, and third group of animal ethics), but to the long-term process of the alignment of material circumstances, social relationships, and conceptual aspects via the interaction between humans and animals.

Summarizing, a practice is a social activity with (a) own goods, (b) standards, values, and goals, (c) skills or competencies, and (d) a specific form of organization. Applying this concept, we can identify at least five practices in our dealings with animals. In addition to that, we see the emergence of new practices, such as the production of medicines using animals. All these practices have their specific controversies, determined by technological developments (one of the historical circumstances that MacIntyre referred to). However, the dynamism of practices is not only an internal affair as MacIntyre suggests, but it is also the ongoing result of practices conflicting and crossing each other’s borders.

Spedding, in his book *Animal Welfare* (2000), identifies seven practices. I present a slightly different classification, since some of these practices hardly differ from each other, such as the distinction between beasts of burden and farm animals, and between pets and animals used for sport and recreation. On the other hand, the wild animals category is broader than Spedding suggests, since it also includes semi-wild animals and animals that are reintroduced into the wild. The five practices are:

1. farm animals, including beasts of burden;
2. pets, including animals for sport and recreational purposes;
3. captive animals, as in zoos;
4. wild and de-domesticated animals (as in the Oostvaarders lake district);
5. animals used for experimental purposes.

Each of these practices has its own organization, dilemmas, and standards for the contact with animals. There are also hybrid or transitional forms, which may even have an inconsistent character.

At times the many human-animal practices are lumped together, as if they are all the same. Take, for example, the study by Hodges and Han, *Livestock, Ethics and Quality of Life* (2000). This book only discusses agriculture and ignores all other practices. The result is that it fails to deal with the interaction between farming and the other practices. Hodges ignores the fact that the requirements imposed on the farming animal practice have become more strict, owing to the rise of the urban population. After all, this urban group led to the rise of the animal rights movement, which fights for more humane treatment of farm animals. (Thomas, 1994 provides much evidence for this thesis, see 7.2).

People in urban settings grew increasingly concerned about the welfare of farm animals when they became aware that these were not treated humanely but as industrial slaves (at least in intensive livestock farming). This intervention from another practice is the origin of a number of the dilemmas in present-day livestock farming. Consumers are increasingly unhappy about the way in which animals are treated in the intensive livestock industry of this day.

This attitude may result from the fact that consumers have largely been expelled from the agricultural and food production system and hear only sentimental stories

about milkmaids and cows in the meadow (Serpell, 1996; see also chapter 10). The invisibility of farm animals is increasingly seen as a form of estrangement and as a confidence gap. Farmers are suspected of intentionally treating their animals poorly. The totality of ethical guidelines that apply to the treatment of pets is imposed on the practice of farm animals – with the consequent discovery that the farm practice in no way meets the guidelines.

An opposite intervention by the agricultural practice upon the pets practice can also occur. In his superb book *The Wealth and Poverty of Nations* (1999), David Landes shows why cattle play a role in some cultures while not in others, and what the consequences of such absence can be. He mentions that in particular in China, with its tremendous population growth and its specific geographic conditions, the number of cattle steadily declined over time, while more and more rice and other crops were grown.

“All of this left little room for animals, except those needed for plowing and hauling and as mounts for the army. The pig was another exception – China’s great scavenger and primary source of meat for the rich man’s table. But few cattle and sheep: the Chinese diet knew little of dairy products, and wool clothing was largely unknown.” (p. 26)

The rather rough treatment that animals often endure in China has its origin in the near non-existence of a livestock farming practice (except for pigs), so that people were (and are) not much used to contact with animals. The farming animal practice can under certain circumstances thus have an intervening effect on other practices involving contact with animals.

Practices in which animals are kept may be viewed as different ways of realizing a historical contract or an exchange between humans and animals. In a specific practice, animals may receive greater care, giving more of their products or even their lives in exchange. In another practice, they may receive less care but are allowed to produce less. In the context of this variety of contracts, each practice develops its own standard of care for animals.

This approach implies a totally different perspective on the history of the relationship between humans and animals than the approach of Singer (1981; 2001) and Baird Gallicot (1999). They assume an expansion of the moral circle, where the group of moral beings steadily expands with the admittance of new living beings. The authors distinguish here between morally active and morally passive beings. The last group, consisting of animals and plants, cannot act morally but do deserve moral respect, despite the fact that they themselves are unable to return such.

The concept of the expansion of the moral circle assumes a mechanical view of history, involving steady and unavoidable progress. Originally there was ethical respect only for certain men, then for all men, next also for women, then for primates, and so forth.

The theory of practices set out here, of practices that impact each other, assumes a much more chaotic manner of cultural learning, involving border traffic between practices and developments within individual practices. In that way it is a sociocultural theory (see Van Haaften, Korthals, Wren, 1995) rather than a theory of

linear biological evolution that rejects the relevance of social institutions and values. The standards of practices influence each other, with a particular practice sometimes taking the lead. In the Netherlands, the pets practice is currently in the lead. So what we see is not an expanding circle of growing sympathy for living beings but rather a wave-like movement. Ethical unrest arises when one and the same type of animal is treated differently depending on the practice: a rabbit as pet, as farm animal, and as lab subject. Much negotiation, regulation, and debate is then needed to resolve these apparent inconsistencies.

1. *Agriculture – farm animals (cattle), including beasts of burden*

Agriculture is one of the oldest practices, one with reasonably well-defined standards regarding the required skills, the end products, and the relevant values. For ages, its social structure was feudal and quite hierarchical. Since the industrial revolution, however, the family farm has been on the rise. It is in the interest of farmers to treat their animals well, as Rollin has clearly explained.

Intensive or industrial agriculture is a different story. Often the same end products are produced as with organic farming, but the standards, skills, and social organization are poles apart. The animals are treated as meat or milk machines, and in the current situation the lives of pigs, chickens, and calves in particular are downright abominable. Their welfare is seriously affected. (For an overview see DeGrazia 1996, p. 281) As I will argue later, the slaughtering of animals is not by definition harmful to welfare. But the way animals are kept in the intensive livestock industry is an utter shame, both from the viewpoint of the animals themselves as from a human viewpoint.

One of the key questions is how heavily the interest of the animal should weigh against commercial interests and the interests of food safety or public health. In my view, the following two questions should together be decisive in that consideration: are objective human interests involved, and can these interests not be met in another way? (Warren 1997, p. 234) In the United States, for example, hormones are administered to animals (BST to cattle, PST to hogs), leading to an increased level of cortisol, a faster heartbeat, reduction of the fat layer, and acceleration of metabolic processes – which in turn have adverse effects on the feeling of well-being on the part of the animals.

About BST in particular there is much literature, the central question being whether it leads to mastitis. Why this question leads to such vehement denial I do not understand: BST increases the production of milk, so it clearly leads to mastitis since it is associated with milking. Mastitis is simply an awful animal disease (Gonyou 1999). Furthermore, milk does not really represent an objective interest for us, since it is not really that healthy and as there are plenty of alternatives.

A new subform of this practice is aquaculture or fishery. It is possible that the same problems that have arisen in intensive livestock farming will also emerge here, although there are indications that the fishing industry is somewhat more cautious. Standards, skills, and organizations are still in development within this practice, and also insight into the specific welfare requirements for fish is still in its infancy. It

furthermore appears that traditional views about how to kill fish are not always kosher, and that technological innovations would be appropriate here. Verheyen and Flight (1997), for example, show that the traditional way of killing eel is very cruel, while it can be done rather painlessly using new technologies.

2. Keeping animals as pets and for sport, recreation, and amusement

This practice has its own good aspects, standards, skills, and organizations. The positive aspect is a specific form of comradeship, which may express itself as companionship, friendship, and in joint achievements. The social organization is based on very direct personal relationships, which in turn determine the necessary skills and values.

Owning pets has especially increased enormously since the time of urbanization. The greatest danger that lurks here is the anthropomorphization of the animal, in other words, disregard of the differences between owners and animals. Animals are regarded as co-residents, leading to their specific characteristics and needs being ignored; in that sense their welfare is often harmed. People who introduce little pigs or tiger cubs into their city homes do considerable harm to the animals (cf. Masson, 1998).

3. Zoos – captive animals

This practice serves to gratify human curiosity, leading some people to assert that amusement and entertainment are the primary goal. But a real zoo intends as much as possible to show how animals live in their natural habitat. So they are given plenty of space, and visitors have the opportunity to examine their unique behavior. Obviously this involves a form of amusement – where not? – but that is no reason to be negative about zoos (see Bostock, 1993; Malamud, 1995; DeGrazia, 1996). Even the stupid way in which some people stare or laugh at animals is no reason to think negatively about zoos. Zoos increase our understanding of the differences between human beings and animals, and they take animals out of their anonymous existence. Nowadays, zoos have significant new tasks: they contribute to the protection of biodiversity, function as gene banks, and serve as breeding and care centers for semi-wild animals.

4. Nature reserves – wild animals and animals reintroduced into the wild

The reintroduction of animals that were kept in captivity into wilderness reserves is a fairly recent phenomenon, which only occasionally occurred in the past. Reintroduction requires a form of care that takes into account the dependence of the animals, or to their capacity to adapt to their new habitat. The main ideological controversy associated with this practice involves the individual animal versus the

ecosystem, or the movement to prevent cruelty to animals versus the environmental movement (Keulartz, 1999; Klaver 2002).

Eric Katz, whom I cited earlier, maintains that individual animals require no care and that this practice is really nothing other than deceit since wild nature is simply impossible to reconstruct. Imitation will always be imitation. His argumentation is rather weak as it relies on an analogy between works of art (where imitation is always deceit) and nature, which cannot be copied or restored. But this argument is incorrect. Churches and castles are being restored all the time, and there is hardly a church or an old building in Europe that is reconstructed with the original stones (see also Norton 1995). Nature can definitely be reconstructed. A characteristic feature of this practice is that the animals have greater freedom and are less dependent on people. On the other hand, they lead a more dangerous and risky life.

5. *Laboratories – animals used for scientific experiments*

In this practice the animals lack the (sometimes limited) freedom of movement that farm animals have, and sometimes they suffer considerably from the nature of the experiments. Laboratory animals are often used as guinea pigs to test the treatment of terminal illnesses. In many western countries, animal ethics commissions are part of this practice and decide about the pros and cons of the use of animals. The animals are generally cared for by staff members who are not involved in the experiments, a division of labor that usually guarantees proper treatment.

Implicit everyday ethical guidelines that have grown between care personnel and animals should be made much more explicit, to be applied as a starting point for official guidelines. In part, it has happened that way in the past. The movement against behaviorism arose in the 1920s and 1930s among people who were charged with the care of animals. They were the first to recognize that mice, rats, dogs, cats, and monkeys were not merely stimulus-response models. The production of these animals has become a separate industry, where ethical commissions should likewise be involved. The use of laboratory animals has substantially declined in the Netherlands in recent years as a result of growing social opposition.

6. *Production of medicines – pharmacology animals*

This practice is of recent date and is quite dependent on the life sciences, which are likewise young. Examples of goods that are produced include medicine-enriched milk and meat from cattle, sheep, rabbits, fish, and chickens. Such additives (sometimes also hormones) are often introduced through genetic modification. At other times, the practice only involves the increased dosage of specific substances that can be used as medicines. An example of this is Alpha-1 Antitrypsin, a substance that naturally occurs in the liver of sheep, and that can be applied in the treatment of pulmonary diseases in humans, provided that a human gene is added that contains the genetic code for human protein. This specific practice does not

involve welfare problems (Rollin in Hodges, 2000, p. 69), but in other situations those might well occur.

The current flow of studies into the subjective perceptions of animals is closely connected to the thorough changes, induced by technology, in existing practices related to the keeping of animals, and also with the rise of new practices. The practice of keeping farm animals, for example, has undergone great changes, caused in particular by biotechnology and information science. Farmers and animals have thus ended up in entirely new situations. By trial and error, new conventions are sought, because the old ones have lost their relevance. A computer-controlled milk robot makes the traditional contacts between farmer and cow superfluous if not impossible, if only because cows and farmers see and feel other less often.

Technological developments in particular cause people and animals to become involved in new situations toward each other. A return to earlier, so-called natural situations thus hardly makes sense. The way, for example, in which farm animals respond to these changes must be watched and analyzed carefully. Welfare research has grown enormously, all the more because social movements – in line with the cultural developments that Thomas sketches – project themselves as the protagonists of animals.

Also, new practices have grown, such as that of keeping lab animals. In the past, lab animals were sometimes kept for scientific or commercial purposes, but the objectives for keeping lab animals have grown so vast that an entirely new practice has emerged, separate, for example, from that of keeping farm animals. Laboratory animals are even kept for welfare research. Also the production of transgenic or cloned animals for medical or other purposes (think of Herman the Bull!) falls under this new practice.

Let me present a small example. Rats that are constantly treated with injection needles in laboratories will become agitated if no precautions are taken. To prevent this, the researcher will have to respond to the subjective experiences of the animals. In these new practices, anthropomorphic attributions are unavoidable. Such attributions are the combined result of the reactions of animals to the new treatments – plus of our own reactions to those of the animals. In that way anthropomorphic vocabularies arise that partly overlap, all depending on the different practices in which the animals are dealt with. We have no other vocabularies for subjective experiences than those that arise from human practices. The research into subjective experiences of animals must therefore resort to such vocabularies.

Ethical demands on practices in an era of changing responsibilities

Practices are not exempted from ethical standards and ethical legitimization. The above discussion of the four animal-ethic perspectives has made clear that there is at least one general criterion or standard that covers the relationship between human beings and animals that is ascribed to by everyone: the principle that animals are entitled to serious ethical consideration. This general principle has far-reaching consequences (minimal maybe according to the animal rights perspective), as DeGrazia points out in his interesting book. Applying this principle, and in combination with a multi-practice approach, we can expose the worst forms of abuse

of animals. In addition, we can link them to ethical intuitions that are found in the various practices.

We can furthermore classify practices according to the principle of increasing responsibility and dependence. As animals become more dependent on us, we have an increasing responsibility to care for them. And vice versa: the more independent they are, the less responsibility we have. The mole in our yard and the flies around us do not need our care, but the cat or dog, the fishes in their aquarium, and all farm animals rely on our sense of responsibility. The moral status of animals is not based on some mythical, guru-inspiring intrinsic value, or on their genome (which we ordinary people can hardly conceive), but simply and down to earth: on our bond with those animals.

If a particular practice gives animals greater freedom of movement, such as with the semi-wild Konik horses, people are less responsible for what happens to such animals. After all, there are more specific standards to ensure a fruitful continuation of the various practices. These three types of more or less general principles are sufficient for establishing an ethically responsible animal policy in each practice. Obviously, these principles are subject to public debate involving a general public that is properly informed and actively involved, that is not repelled by secret language or utopian illusions about a total reconciliation of humans and animals.

The ethically responsible policy in all practices is likely to change these even more than in the past into care practices, obviously depending on the standards, rules, and procedures in such practices. This transformation is already in progress because of the dynamic interaction between practices. Border conflicts between pets and farm animals are common these days. But this dynamism does not always involve public debate, since the debate is conducted behind the scenes by the various practices, meaning that no public responsibility is taken.

The tasks newly taken up by zoos, for example, to preserve biodiversity, or by laboratories to breed organs and produce medicines, are led by insiders rather than by public discussions about which animal species we really want. We must therefore develop new guidelines for practices, to organize the public aspect better and to keep the general public involved rather than dumb. Annual reports on ethics and related controls can be the first step, and a fairly simple one at that, to facilitate these public tasks. Ethical committees at the heart of the various practices should monitor those annual reports and should call upon managers to account for their actions. In all cases, this must be an inductive process of standard-setting, a bottom-up approach, so that generally imperative rules are not imposed from outside and from above, that fail to address the specific needs and ethical intuitions of the practices.

Practices and dilemmas

This is a bottom-up approach because it does not start from abstract rules or principles, but instead listens to the ethical intuitions of the players involved. What would the dilemmas look like from the viewpoint of the practices?

As to the first dilemma, the pragmatic approach set out here would first of all require the persons involved in a particular practice to care for animals; animals will not do this of themselves. With regard to the second dilemma, this approach would try to cut through the dichotomy between the individual and the species or

ecosystem, and to search for interim modes and transitions, so that this difference is no longer experienced as a gap or dichotomy. The pragmatic approach does not have a universally acceptable solution for the third dilemma; tragic compromises are unavoidable. What does apply is that everyone involved must bear the consequences, in accordance with the responsibility ethic. A similar approach applies to the fourth dilemma: tragic choices must be made, but the consequences may not be shifted strictly onto specific groups. At the same time, the parties involved can be on the lookout for shifts between practices, to new relationships, and to new standards in the permanent dynamic interaction between practices.

I consider it a useful suggestion by Metz, for example, to teach chickens who are constantly inclined to pick each other to death, even when rummaging freely, not to pick each other, through some form of therapy (Metz 2000). Therapy for animals ... it sounds strange, but why not?

The pragmatic or multi-practice approach that I have developed here thus offers a fruitful perspective for the five dilemmas, because it enables us to identify bottlenecks, to define stakeholders, and to signal the various types of relationships between humans and animals. Reference to a natural situation is unnecessary and unwise; in that regard this approach departs radically from the three approaches discussed earlier. What is natural is not necessarily good, and, vice versa, what is good is not by definition natural.

7.5 Justification for killing and eating farm animals

And now the cardinal question in animal ethics: may we eat animals? Let's start by listing the answers. One might be opposed to eating animals because of a conviction that animals have an independent right to life that we may not impose on. One might also be against eating animals because of the feeling that the conditions under which animals are kept nowadays is shameful, or that keeping animals for meat is an inefficient way of producing food.

These are two principally different, negative ethical answers to the question whether animals may be eaten. The first answer is ethical in that it refers to the right to life; it is positioned in the discussion about universal animal rights and the intrinsic value of the animal. The second is empirical-ethical in that it relates to the time-related debate about the efficiency of converting grass and fodder into meat, or in that it argues against the industrial and commercial treatment of animals in this day (the bio-industry).

The first position can be argued by presenting philosophic arguments, not linked to any specific time, about rights that prescribe that people may not eat animals. It can expect objections from people who would challenge the argument that animals have rights. The second position must be open to scientific arguments (linked to a specific time) that, at a given moment, may entail that meat from cows does represent a reasonable alternative, that eating meat is necessary for reasons of health (even if only for certain groups), or that there is an acceptable way of keeping and slaughtering animals.

Many animal ethicists – such as Coetzee and Regan – do not distinguish in this way between philosophic and scientific arguments. They readily assume that they can fully participate in the debate using scientific arguments while, at the same time, continuing to defend a philosophic position. On the contrary, I see a fundamental distinction between the way in which most animals are kept at this moment (in intensive cattle industry settings, such as battery cages) and the various animal-friendly, extensive cattle farming methods that are quite well possible.

Arguments against eating meat

I will first present a number of arguments by empirical-ethical vegetarians. The most familiar argument comes from Jeremy Rifkin (1992). He provides evidence that food production is much more efficient when it comes to vegetable proteins than animal proteins. He says, for example:

“At this time (1992) there are 1.28 billion heads of cattle on this earth. They occupy approximately 24 percent of the total earth surface and consume grain in order to feed hundreds of millions of people. Their total weight is more than that of the total human population on earth. Animal production is far less efficient (by a factor of 7 or 8) than the conversion of solar energy and CO₂ by plants into vegetable proteins.”

A second important argument from the empirical-ethical corner is the suffering that animals undeniably undergo in the intensive cattle industry in the Netherlands and elsewhere. People like Wien van den Brink and his fellow pig baiters are nothing other than cruel animal tormentors, who inflict great suffering on animals purely for the money. Never have I heard any of these people speak one word of regret or remorse about the immeasurable suffering that they cause animals. The Dutch concerned consumer group Pigs in Trouble has quite rightly issued a loud protest against these excesses, which occur on a large scale.

Some, like the writer Coetzee (1999), compare the situation to the holocaust: “We are surrounded by an industry of humiliation, cruelty and killing that equals the Third Reich.” (p. 22) I consider this comparison inappropriate and distasteful because there are major differences – if only because the Jews were not gassed for money. Still, despite all emotions that this subject arouses, we must make a distinction between the current treatment of animals in intensive cattle farming and other ways of dealing with farm animals that can clearly be conducive to their welfare, even when they lead to the slaughter of the animals involved. That is discussed in the next section.

Then there are the arguments from the philosophical-ethical perspective. Their central message is that animals and other living beings have a right to life (as Regan maintains, see above) and/or suffer needlessly when they are killed. Other living beings – especially human beings – may not violate this right. Some, like Regan, make an exception for human beings, maintaining that only human beings may not kill animals, for it is rather difficult to apply this ban to predatory animals (or pathogenic bacteria). Moral consciousness, they allege, imposes exclusive

responsibilities on humans. Animals other than *homo sapiens* are merely moral objects, not moral subjects; they do not need to concern themselves with rights.

Arguments for keeping meat animals and for eating meat

A first argument in favor of keeping animals for their meat is the reverse of the first argument against this practice – there are simply many areas that can only be accessed by ruminant mammals and other farm animals (including goats), such as rocky terrain, alpine meadows (Austria, Switzerland, Germany, Italy), and peat meadows (the Dutch provinces of Zuid-Holland and Overijssel). The consumption by ruminants of grassy plants that we cannot digest, on land that cannot be used for growing crops, is a profitable use of scarce land for food production – yes, food for human consumption. Worldwide food production greatly benefits from this. Those who immediately reject this anthropocentric argument show a lack of concern for the possibility of famine in the decades to come.

A second argument involves the position of poor, small farmers in underdeveloped countries. Farm animals are a form of capital for them, sometimes an investment for uncertain times. Animals are mobile and can be taken along in times of forced migration (famine, war, or other forms of social unrest). It would be very cruel to deny these small farmers this form of livelihood, because that would undoubtedly lead to acute hunger for them. Farm animals are generally treated quite well by small farmers, since they represent their only form of capital. Mutual assistance is directly visible in this relationship.

A third argument is cultural in nature. In the major cattle regions, farm animals – both dairy and meat cattle – have contributed to the shaping of the countryside. Waterways, roads, paths, and vegetation have been fully shaped by the mutual dependency of farmers and animals. Farm animals, as the American poet Walt Whitman (1819-1892) said in his poem “Miracles”, are:

*Animals feeding in the fields,
(...) one and all, are to me miracles*

The seventeenth-century landscape paintings of Albert Cuyp and the later romantic The Hague School (Koekoek, Roozenboom) all show how cattle farming has shaped the Dutch landscape. The German, English, or French countryside, and that in any other country, has been shaped in the same way. I am not in favor of fixating the landscape, but I do hope to find a certain respect for what has historically grown, for what is beautiful and not associated with great moral costs. Extensive cattle farming clearly does not involve high moral costs.

A fourth argument is pedagogical in nature. Suppose we would not keep animals at all anymore? How would people, as they grow up, then gain any experience of nature and animals that exceeds the (yawn!) boundary of dogs and cats around the house? Multiple animal contacts are necessary – with pets, but also with farm animals – to experience directly and face to face that there are living beings that differ altogether from humankind, but that are animals just like us.

A fifth argument is very practical. Farm animals are no longer able to subsist without people; we cannot simply let them go (or kill them painlessly and without

purpose). They require veterinary care, they need a shelter during bad weather, and more. During the ten thousand years of their domestication, they have become so adapted to human beings (including genetically) that they can no longer survive without us.

The sixth and last argument comes from the world of nutrition. There is fairly hard evidence that animal proteins are necessary for young children, pregnant women, and certain diabetic patients. It is not yet possible to substitute animal proteins fully by synthetic substances, although I would strongly be in favor of that. De George has made this the core of her book about the antifeminist tone of most vegetarian studies. She is of the opinion that these studies are an injustice to women and young children by ignoring their specific nutritional needs. For the time being, the scientific debate gives her the benefit of the doubt.

Reviewing all these arguments once more, it appears that the various debates are still far from issuing a clear result. In other words, there is no reason whatsoever for denunciations à la Coetzee (meat eaters are guilty of holocaust conditions) or accusations of even worse aberrations. All these discussions involve only weak arguments.

Let me give my very final weak argument, in line with my earlier pragmatic line of reasoning. It is an answer to the question why I believe that there are no convincing philosophical-ethical objections against eating beef, pork, and veal. It is not that we are better or smarter than cows and sheep. I would not consider that a very good answer, because then we should also be allowed to eat people who are less smart than we are – which would be rejected by practically everyone, certainly by the potential victims themselves.

As a moderate but convinced meat-eater, I see a different justification. We could view our keeping of cows, pigs, and sheep for their meat (all in a decent way!) as a sort of contract between people and farm animals: we care for the animals, and the animals give us their products, such as milk and wool and ultimately their lives. In exchange for food and drink and good care, the cows, pigs, and sheep give their entire lives, and we slaughter them for their meat. The contract between people and farm animals means an obligation. People must stick to their commitment: caring well for the animals, not reducing them to biomachines, to milk and meat machines. The animals then give their lives for our meat.

Intensive cattle farming is a violation of the contract, because we have not agreed with the cows, sheep, and pigs involved to give them an awful life; they were to get their proper creature comforts. Catching and keeping animals does not mean keeping them captive. Consumers have their own responsibility in this. They must be prepared to pay well and to be on the lookout for quality (see chapter 10).

The swap or contract with pets is different from the contract with farm animals. We provide our dogs and cats proper care, and in return they give enjoyment. We keep their soft furs properly washed and combed, so that we can caress them, and they provide the necessary wildness and excitement by running after a duck or catching a mouse. With dogs and cats we have a different sort of deal than with cattle. After all, pets and farm animals are altogether different categories of animals. The contracts that we have with them are thus also different.

7.6 Keeping cattle in large or small volumes

When we keep cattle, how then must we keep them? Keeping cattle is a complicated matter that requires taking numerous factors into account: environmental requirements, landscape requirements (such as a pretty landscape in an urban society), and animal welfare requirements. Many people believe that large-scale farming enterprises and the urbanization of keeping animals are unavoidable in light of the ever growing demands of the environment and of animal welfare (e.g. Metz 2000). According to others, large-scale cattle farming by definition focuses strictly on profits and strengthening of the competitive position, leading to consistent and systematic perils to animal welfare. De Jonge and Goewie (2000) thus claim in their worthwhile study that organic farming is by definition small-scale, extensive, directed at concrete relations between farmers and animals, and for that reason capable of promoting animal welfare optimally. Large-scale cattle farming is said to be aimed at specialization and solely focused on growth and feed conversion (p. 40; cf. pp. 39, 49, 73).

Other authors likewise proclaim an opinion wherein the focus on animal welfare is central. This approach, which may be called zoocentric, is correct in certain individual aspects (of animal welfare). But, on the whole, this generalizing contrast of small-scale, extensive, and sensitive to animals versus large-scale, intensive, and insensitive to animals is not convincingly proven anywhere. Moreover, this approach is rather simplistic, because it fails to address the sometimes conflicting combination of differing demands that the cattle farmer must meet. Let me start with the first point.

Large-scale farming does not by definition lead to intensive farming. In the United States, for example, there are prairies with large-scale cattle farming systems (especially for beef) that are not intensive. This is obviously closely related to the vast land areas available, but it shows the possibility that large-scale business is not destructive to animal welfare. The American counter-example also shows that not all farm animals require individual care. We know systems where this does not happen but where animal welfare is nonetheless at risk.

A significant factor applying to Europe are the veterinary and hygienic requirements. As we know, salmonella bacteria are very active in organic chicken farms, and environmental factors are not adequately addressed in extensive cattle farms. These two detriments contribute to the fact that farming is often conducted in a large-scale and intensive way. In general, public health and the environment are ignored by the advocates of approaches that are sensitive to animals, even though they pretend to have a vision on integrated cattle farming.

In the second place, advocates of small-scale and extensive cattle farming often adhere to a neoclassic view of markets. The market, they claim, dictates that enterprises operate on a large-scale and specialist basis, focusing strictly on profit. By definition, they say, animal welfare is not guaranteed. Organic farms, on the other hand, according to De Jonge and Goewie, operate strictly outside the market.

This, I think, is a caricature of what a market really is (see also chapters 9 and 10). Markets always operate on the basis of rules; they are created by rules. To operate successfully in a market, enterprises must comply with the rules, at the risk

of penalties, exclusion, loss of their good name, loss of trust, and so forth. Companies must obey the 38-hour working week, the prohibition against child labor, and legislation regarding working conditions. Depending on their reputation, they may even step beyond such legal requirements, aiming to provide greater job satisfaction to their employees.

With animal welfare it works the same way; depending on the rules, companies will promote it or not. If animal welfare legislation has been enacted (as is now the case at the European level) and is sufficiently monitored, then companies will generally adhere to it. Compliance with the rules of the market has nothing to do with being large or specialized or operating intensively rather than extensively. Large clothing firms or auto manufacturers also adhere to legislation regarding working conditions, even though they may be very specialized. The responsibilities in the supply chains are regulated here by liability considerations.

I fail to see why the responsibilities in the food chains cannot be regulated in the same way, so that, for example, animal welfare is properly attended to in the production of cattle feeds. Quality controls in the field of nutrition are moving in this direction. In short, if animal welfare is properly regulated by law, large-scale and intensive enterprises can be just as compliant and maybe even more. That is a question to be answered by empirical research. Large-scale and specialized enterprises will possibly function even better in the future if clear and all-encompassing regulations in the field of animal welfare are established, aimed at the entire food chain, including cattle feeds, and that take public health and the environment likewise into account (see Metz, 2000).

Lastly, many of the authors who are so friendly to animals have a quite idealistic view of organic cattle farming. They claim that organic enterprises meet high standards of animal welfare since they adhere to a zoocentric approach. I doubt that this approach is really sufficient. As stated above, issues related to the environment and public health are not addressed by the authors (they are not covered in the zoocentric approach), so that these factors are not properly guaranteed in organic cattle farming. Research has also pointed out that cannibalism among chickens occurs (sometimes even more) in free-run chicken farms. Chickens simply do not look enough after their own welfare; people must do that for them.

My problem with the zoocentric approach is not so much that the modern intensive cattle farmer is portrayed in a negative sense; such farmer is clearly only minimally concerned about animal welfare, which many correctly point out. But I do not think that organic cattle farms must be idealized. Instead, the broad palette of factors that are involved in cattle farming must be considered. In my view, there is too little focus on the future, and too little thought is given to what cattle farming systems should look like, given the broad palette of requirements. A proper balance must be sought between animal welfare, the environment, public health, and the economic factor. A simpler approach may be possible but is unlikely to do justice to the complex issues of keeping cattle.

7.7 The failure of agricultural expertise and the cost-benefit analysis in the foot-and-mouth disease crisis

In 2001, 26 cases of foot-and-mouth disease came to light in the Netherlands and in the UK there were 2,030 cases. The disease is not dangerous for human beings and is fatal only for young animals. Nonetheless, millions of animals were slaughtered: farm animals and pets, wild and exotic animals, animals that had been reintroduced into the wild. In the Netherlands, some 277,000 animals were sacrificed, and some 2,900 farms were cleared. Total damage: 1.3 billion euros. Opponents spoke of a holocaust and of medieval burnings. Advocates spoke of unavoidable costs and spotted hypocritical tears among farmers who would take their animals to the slaughterhouse under normal circumstances. Great indignation was felt everywhere, including myself.

It is good to be able to unravel the various aspects of the issue in retrospect and to consider what happened. In my view, at least three ethical issues were involved here. First of all, there is the issue of an industrial meat production system, where massive slaughter of healthy animals is apparently logical and where respect for animals is wanting. Secondly, there are no proper partitions between the various practices in which animals are kept, such as keeping animals for agricultural purposes, for wildlife and environmental management, or simply as pets. This can lead to animals that were never intended to be slaughtered having to be killed anyway. Thirdly, the role of the experts should be mentioned. Applying a cost-benefit analysis, they had calculated that non-vaccination was much cheaper. But they were not prepared for the massive outcry of the general public, which reproached them for their one-sided look at the ethical issues.

The ethical challenge consists of coming up with alternatives for these three bottlenecks, which partly interrelate and are partly separate. That involves studying what proper care for cattle means, how we can properly treat our pets and hobby animals, and how our experts in turn should consider us, the general public.

Large-scale meat production

The first issue involves the tremendous intensification of animal food production based on strictly commercial considerations, without other considerations playing a role. Of itself, large-scale production has benefits, such as better veterinary treatment and fewer public health risks. But it also has many disadvantages, which require regulation. These include the transport of animals, the limited attention to animal welfare, and the sometimes higher chance of animal diseases.

Large-scale meat production does not by definition have to lead to large-scale, unnecessary (and premature) slaughter. That depends on the ethical codes that are applied and the level of ethical awareness on the part of the people involved in the slaughtering process. Personally, I consider it an ethical issue that the large-scale Dutch meat production industry is so heavily oriented to the export business, and that we shift our ecological problems in the production of cattle feeds onto underdeveloped countries. Furthermore, there is a great distance between the food and meat production systems and the consumer. Many consumers consider meat as a quick snack or a disposable item, unlike a Mercedes, which is a luxury article that

you can perfectly enjoy along with others, as long as it properly produced and prepared.

Partitions to guarantee differentiated treatment of animals

The second issue concerns the fact that we also keep animals for purposes other than for food. We keep them as pets, in zoos, and in wilderness reserves. The food-and-mouth rules suddenly turned out to apply equally to all animals, so that differentiation in treatment was no longer allowed. I want to plead for differentiated treatment of animals, such that their specific function is considered, with proper partitions as it were being placed between farm animals, semi-wild animals, and pets. It is obvious that these partitions cannot be watertight. On the other hand, the differences in practices should be taken into account as much as possible. In the case of the foot-and-mouth disease, vaccination would certainly be an option.

The failure of cost-benefit analysis

The third issue is the failure of the cost-benefit analysis that is based on a biased form of bio-ethics, namely utilitarianism. The essence of utilitarianism is that all pros and cons of a particular treatment are reduced to monetary terms. However, there are many values that cannot be expressed in terms of money or another quantitative unit. In the cost-benefit analysis of the food-and-mouth crisis, for example, no attention was paid to biological considerations of demography or epidemiology (such as the high cattle density) or to the sociocultural and ethical costs (such as landscape costs and the costs associated with loss of reputation). Also, it was not considered that the meat production system is not isolated from other animal practices, or that people have an emotional bond with animals. The effects of the disease and of the non-vaccination policy on other animal practices were ignored, as well as other values to which it is difficult to attach a price tag.

I am not a principled opponent of cost-benefit analysis as it can be quite useful. But it cannot help us in the ethical deliberation about new developments such as large-scale meat production, gene technology, and nutritional quality improvements. A cost-benefit analysis cannot determine how we want to live, how we want to eat, and what we want to eat.

Solutions

The first ethical issue that came to light as a result of the food-and-mouth crisis is linked to various questions. What kind of meat production do we want? What kind of meat production can we demand, given our environmental and health requirements? This last criterion is important, for we cannot start all over again or return to the past. Our health requirements are higher than in the past; we rightly no longer accept that elderly people die from salmonella, lysteria, or other types of food poisoning. Veterinary requirements have likewise been raised. In addition, we want to preserve our man-made landscapes, and we are quite pleased with many aspects of global food production, such as the availability of fresh fruit and vegetables during every season of the year.

For many situations, small-scale production is not the solution, but the ethical dilemmas that arise, caused by the difficulty of reconciling so many different

demands, call for greater and more direct involvement on the part of consumers in food production issues. A closely-woven infrastructure of consumer and producer councils, that are enabled to consider value systems and interests in sensible ways, is necessary. The set-up of local markets, where farmers and consumers can meet, is just as important, just like model farms and food plants that are open to the public. We must also be prepared to eat less meat, and government agencies should provide facilities for the search into alternatives, such as the transition from the production of animal proteins to that of vegetable proteins.

The second ethical issue, regarding the various ways of treating animals, requires that we take account of differences, for example with regard to veterinary care, vaccines, and animal feeds. These issues will have to be addressed at the European level, since that is where the rules for vaccination or non-vaccination are set. A potential consequence is a thorough check for the invasion of illnesses (think of SARS), which implies intensification of the inspection of people (who often travel with animals). A differentiated treatment of animals is necessary in all situations.

The third ethical issue involves the fact that researchers and policymakers have generally considered only specific aspects, not taking account of other aspects that turned out to be just as significant. My plea for small-scale consumer and producer councils in all links of the chains (including research links) can be useful toward the solution of this problem. Until now the links in the chain focus mainly on each other, and far too little on the end-user, the average consumer, and the sociocultural context of new technologies and products. From the viewpoint of the consumer many links may be done away with, while others are missing, such as environmentally friendly waste disposal or systematic partner farming (e.g. exchange of crop and cattle farming). Benchmarking and good practices codes are missing; ethical deliberations are suppressed, consciously as well as unconsciously; responsibilities cannot be reviewed adequately. Nutrition scientists and nutrition experts can take on new responsibilities by digging channels to consumers. As long as the three bottlenecks – how to treat cattle in a good way, how to treat our pets and other hobby animals, how to have our experts cope better with the general public – are not addressed in a fundamental way, we can expect more food-and-mouth crises.

7.8 Conclusion

In this chapter I have discussed the general issues of our involvement with living beings, such as plants and animals. I have presented a pragmatic approach and have shown the advantages of this approach for a productive treatment of the unavoidable dilemmas related to keeping animals, such as in agriculture and in nature reserves. Wildness or naturalness cannot be a criterion for the treatment of animals, since in principle all animals are under our supervision, are influenced by us, and are dependent on us. What matters is taking on responsibility for the animals. Obviously there are great differences between people and animals and between different types of animals. It is important not to ignore these differences and to take them into account in our treatment. This is only possible if the interaction between animals and

human beings is as multifaceted as possible, meaning physical interaction and not just via pictures, documentary programs, or hearsay.

That is why I would plead for involvement through zoos, fishing, and other forms of direct contact with animals that do not harm their welfare. Multiiformity in contacts with animals means that the same type of animal can be treated in quite different ways, all depending on the practice in which it is kept. I have also discussed the boundaries within which this multiiformity can take shape. Welfare, empathy, serious moral attention, and human responsibility are central concepts in this.

For the rest, I have pointed out the implicit ethical rules that have shaped the practices involving people and animals, and that frequently offer interesting starting points for a well-considered approach to the specific dilemmas. Imposing ethical rules top-down, with an appeal to the natural condition of animals, is useless in my view. In addition, this has negative consequences for the ethical skills of those involved. The parties involved are not stimulated to search constructively for ethical answers to new developments. Instead, they are merely asked to resign themselves to old solutions.

The dynamism of practices and their mutual impact can be a source of renewal, with the current practice of keeping pets determining our animal-ethic intuitions most directly at this time. The risk does exist in this practice that essential differences between humans and animals are ignored, whereas respect for animals and other living beings is realized optimally when the differences between human beings and animals, and among animals, are emphasized.

Lastly, I have presented arguments for a two-way traffic between experts and the general public with regard to the treatment of animals. The technological treatment of animals is subject to all sorts of developments that enfold beyond the view of the public. The danger thus exists that these developments break loose from animal ethic intuitions, causing great harm to animals – as happened in the foot-and-mouth crisis.

CHAPTER 8

HEAVEN OR HELL:

SCIENTIFIC PRODUCTION AND PREPARATION OF FOOD

On August 12, 2015, Veggy Tarian enters the supermarket. She slides her gene profile through the sensor, presses the print button, and reads seconds later that her Lyonil content allows her 100 grams of broccoli today, supplemented with Omega-24 fatty acid. She also sees that, because of her slightly contaminated blood, she needs to consume 50 grams of non-alpha caratone soybeans and 200 ml of protobiologica. Fortunately, the calcium level of her thighbones is fine again, and the synapse content of her brains is in order, so she no longer needs to take that awful-tasting Benecolia sauce. But alas, her epidermal hydration level has dropped 45%, so she immediately has to take in one of those tasteless Aquarium drinks, at least if she doesn't want to put her health care premium at risk. She walks past the fast-food islands, intended for people with 150% or more health premium, towards her own island (for people with 25% premium), and just happens to see a pregnant woman nibbling at a piece of creamy-soft raw-milk brie, which is really intended for Gene-4000 adults. The woman turns green in the face, as her resistance against lysteria is apparently nil. After she has sounded the alarm, the DHB (Diet Health Brigade) turns out to pump her stomach. Feeling relieved, Veggy picks up her package and is glad to read that she has purchased one thousandth LUE (life unit extension) and that her ULD (ultimate living date) has been extended to August 2050.

In this chapter I will discuss the role of science and technology in food production, shuttling back and forth between heaven and hell. I will first present one aspect of the history of that shuttle movement, namely the attempt to introduce genetically modified organisms (GMOs); that led to a setback, so that much greater care is now taken. Next, I discuss the principal ethical arguments of the advocates and opponents of genetic modification. That is followed by a discussion of two closely related scientific technical developments that will thoroughly impact our involvement with food in the future: functional food and genomics.

The terms “functional food” and “health food” already indicate that a new role is being assigned to food, based on recent scientific insights and technologies: the role of a medicine to reduce health risks and improve body functions. As a result of this new role, the borderline between foods and drugs becomes less clear. Will the supermarket become a drug store and the farmer a pharmacist? Will we eat food only out of health considerations and no longer eat things strictly because they taste good?

Genomics and nutrigenomics are the latest developments in science that may lead to fundamental changes in the world of food. Genes, according to the starting premise of these disciplines, can be turned on or off by food and the related way of life. Our genetic profile provides insight into the chances of illness and good health, as these are raised or lowered depending on the food that we consume. But that requires constant screening and monitoring of our genetic profile, and it calls for a better match of our selection of food with recent scientific insights. Also, a specific type of food may be beneficial to some while harmful to others.

Here also, the new developments can have negative effects, much can go wrong, and fundamental human values, such as cooking and eating together, can be impacted. But they do not result in hell – nor heaven, for that matter. Probiotics are a good example. These generally are good for the stomach and intestinal bacteria of their users, but according to recent studies they can also have harmful effects on some persons, such as young children and pregnant women. Foods intended for specific target groups are not to be used by non-target groups and may even be harmful. Strict regimes of segregated production, purchasing, and buying, with separate islands in supermarkets, will become standard.

As I have argued earlier, all living beings have a common structure in their DNA, the uniform molecular structure (see the introduction to chapter 7). This confronts us for the fourth time with our delusions of grandeur, where humankind with its unique senses and competencies stood at the center of the world. The first three jolts involved the heliocentric view of the universe, the evolutionary theory of Darwin, and the theory of Freud. The first of these made clear that the earth is no longer the center of the universe, and that many more galaxies and earthlike bodies exist. Darwin's theory proved that the human race is related to other animals, and Freud showed that the individual human being, the ego, is not a unity and possesses many dark sides.

The fourth jolt entails that, at the molecular biological level, there is hardly a distinction between human beings and other living beings, since all are made up from the same components of the DNA structure. Even though

This genetic structure is itself embedded in functions that differ radically from each other, there is still that common molecular biological structure. We are not talking of genetic determinism, but the molecular biological structure, only accessible at microscopic level, is more important than was ever considered possible. This scientific fact stands at the basis of recent developments in nutritional science, while their ethical and social consequences have hardly been considered yet.

Science and technology continuously call for embedment, control, and modeling by public debate, governments, and organizations. Not to prevent their harmful effects – that is nearly impossible. But to be better prepared for them, so that the sharp edges, the drawbacks, can be filed smooth wherever possible, and to contribute better to the choice between different scientific and technological paths. Since new developments are involved, old standards and values are of no help in this; technologies as well as standards and values develop all the time. The question how we must feed ourselves in a technological culture is therefore difficult to answer. More about this in the final section of this chapter.

8.1 *Scientific production, cooking, and eating of food*

As already said, since ancient times, food production leads to great utopian expectations, but in particular science and technology are associated with great promises and high expectations of food production and, in its wake, the scientification of cooking and eating. In short, food sciences and technologies took upon themselves the worthwhile task of lifting the production, cooking, and eating of food onto a higher plane. Scientific food, scientific cooking, scientific eating: these words stand for the utopian view that arose at the turn of the twentieth century, which promised that people would gain complete control over their food, that they would disengage nature with all its whims – just like the body.

Many scientists try to produce all sorts of things from a limited number of raw materials; in the case of the soybean that has been partially realized. Meat, vegetables, juices, and more have been produced from the soybean. The soybean is turning into gold in our hands! Modern food sciences give rise to high expectations. In reverse, the food sciences promise us that it will be possible to start producing cheap and healthy food. In our quest for the grail, for the ultimate ingredients for our food, billions of dollars and euros are being spent. The all-providing ingredient – who would not be attracted by this utopian concept? You're sure to be an enormous pessimist if that does not appeal!

The enthusiastic proponents promise wonderful things: with fortified food we will be happy for ever during a long life and cure all illnesses. But dangers, risks, fears, and feelings of guilt also lie in wait. The fish that we caught so cleverly, that was such a delicacy, fried and all, does not leave our innards unperturbed. Our inner soul, our conscience, constituted from that fish or that cow, stirs. It asks: are we doing the right thing when we consume that food, that fish or cow? We feel guilty about having caught and eaten a living being. We ask ourselves: will the other living beings strike back, will they grab hold of us in turn or harm us in other ways?

Some speak of revenge. Nature, which we have exploited, will strike back if we interfere too much, if we are too clever or go too far. But there is a paradox here. We all want honest and natural food: food that comes directly from nature, with as little human intervention as possible. But we are no longer capable of that. In all sorts of ways and to an ever-increasing extent, we raise our health requirements and our quality demands of nutrition such that, in the end, whatever is not processed leads to ever higher risks to our health. We hear that organic eggs may contain salmonella, so that elderly people may kick the bucket. We know that non-pasteurized, raw milk cheese, such as Roquefort, may cause a fatal flu, that we can get mad cow disease from eating beef. One disaster follows another, and, according to many, genetically modified food is the logical next step.

Frankenstein strikes back

Genetically modified (some say manipulated) organisms are often called Frankenfood: produced by humans, with only marginal involvement on the part of nature. The dominant theme of *Frankenstein*, the novel by Mary Shelley (1818), is that our own products turn against us. Prince Charles of England personally coined the term Frankenfood. He claims – and many along with him – that the scientific and

technological search for the miracle plant will degenerate from an adventuresome quest for salvation into a journey to hell. In the end, this development leads to plastic food, where nature is reduced to emptiness.

We seem to be headed for a journey through the endless night of industrialized food, void of any pleasure in what was once nature. Nature is totally reduced to artificiality, to plastic. If we do not watch out, then the trees will no longer consist of living material but be fake – just like in Disney World. Where does the living world of nature still have meaning for us? From what living material can we still wrest purpose if all is reduced to imitation and plastic? Will the world not degenerate into emptiness, into a vast, menacing, rhythmically pounding void?

Theodor Adorno and Max Horkheimer were the first to ask this question. In their *Dialektik der Aufklärung* (originally 1944) they also provided the answer: yes, increasing control over nature leads to increasing suppression of people, leads to complete inner and outer emptiness. Their conclusions were altogether negative. As we try to get greater control over nature, nature hits back and does so just as radically: “The curse of continuous progress leads to continuous decline” (p. 35). Science and technology are the principal factors in this suppression of nature. The implication is that nothing positive is to be expected from science and technology.

It has meanwhile become clear that science and technology can indeed have many adverse effects. It has also become clear that nature sometimes hits back. Or, as the title of a well-documented book by Edward Tenner suggests, bites back (*Why Things Bite Back*, 1996). Let me give two examples out of the many that are available. The introduction of a crop that first appeared to be useful in a region where this did not occur before gradually turned into rampant growth, since the crop did not have any natural enemies; that is what happened with kudzu in the southeastern United States. The use of DDT initially led to a significant increase in agricultural production, but soon it became clear that birds and plants died in large numbers; even now there are still remnants of DDT in ecosystems.

The idea that nature reacts is a fruitful starting point for much scientific and technological research. But whether everything is as bad as Adorno and Horkheimer claim is less clear. After all, the focus of their doom scenario is rather limited. They pay no attention to political processes, nor to the changing dynamism of science itself. In their eyes, science and technology are a self-propelling colossus that steamrollers everything in its way. Science and technology are not only a black box, but also a gigantic vacuum cleaner that drains and sucks everything empty.

This radically pessimistic viewpoint is frequently seen in philosophical and ethical reflections about nutrition. Scientific and technological processing of food leads to a hell, it is claimed. Plastic food leads to the fall of mankind. Others, who instead are quite optimistic (and unfamiliar with the thinking of Adorno and Horkheimer), expect great things from science; they see plastic food as the salvation of humankind. The title of Dennis Avery’s book, *Saving the Planet through Pesticides and Plastic* (2000), is quite clear about this.

8.2 *Great promises and the turnaround to Frankenfear*

The introduction of genetically modified crops into the UK and the rest of Europe was to take place in the usual way. At least, that is how the managers of the companies involved, such as Monsanto and Novartis, had planned it. Experts and public officials would present their recommendations about the economic and technical pros and cons to special committees. The proposed regulations would be discussed in the British parliament. The cabinet would take a decision. And consumers would find the products on supermarket shelves – and buy them.

But the customary linear model of planning, introduction, and regulation of new technologies turned out differently this time. The history of the genetic modification of crops shows a much more complicated and unpredictable line. It is not a success story – on the contrary. It is a story of arrogance, of lack of respect for opponents, of partisan tunnel vision on the part of experts, and of closed scientific and government cultures. The introduction of genetically modified organisms turned into a fight involving the superpowers, such as the United States (for), France (against), and Japan (against). Brazil tipped the balance: when GMOs were forbidden there, the United States was halted in its tracks. In between, single activists turned up, often supported by pressure groups such as Greenpeace, and causing much turmoil in the media.

The history reads as follows. In the 1990s the British government initiated the first measures to stimulate research into GMOs and their production. Opponents were not heard, neither by the advisory bodies, nor by the scientists and public officials involved. These took a serious risk, because the British general public had lost much of its trust in government as a result of the mad cow disease.

The reversal occurred in August 1998 when a British-Hungarian researcher, Arpad Pusztai, who worked for the Rowett Research Institute in Aberdeen, appeared on British television. Pusztai had done research into young rats that had been fed genetically modified potatoes that contained the protein lectine. He had discovered that the immune-response reaction of the rats was reduced and that their growth was impeded. He also warned about careless testing of genetically modified food.

Pusztai was fired after his television appearance, and his hard disk was confiscated. In October, a scientific panel criticized his test methods. But Pusztai had already become a martyr to GMO opponents. On February 12, 1999, scientists proclaimed, at the request of *Friends of the Earth*, that Pusztai's findings had to be taken seriously (for more details in this story, see Horton 2003).

Meanwhile, the media had discovered the issue. It started to look more and more as if the government was engaged in creating a cover-up. The media disclosed that the Rowett Research Institute had received research funds from the American biotech company Monsanto totaling 140,000 British pounds. There was speculation that the Blair administration wanted to attract foreign biotech companies through investment premiums. Numerous Frankenstein references turned up, after the researcher in the novel by Mary Shelley who causes dead material to give birth to a monster. Blair added fuel to the flames in February 1999 by proclaiming that he liked genetically modified food better than regular food. Whereupon the *Mirror* opened its next day's edition with a cartoon of Blair's head, genetically modified so

as to look like that of Boris Karloff (the actor who played Frankenstein in the famous horror movie). The caption read: “the prime monster”.

To the public the attempts to trivialize the risks of genetically modified food brought immediate memories of the situation that it had encountered not much earlier, with the mad cow disease. Only an idiot would still believe this kind of reassurance, according to Professor Semir Zeki of University College in London (*de Volkskrant*, February 20, 1999). The previous affairs make the general public overly sensitive to this type of quasi-reassurance, Jane Rissler asserted (*New Scientist*, February 27, 1999; for more details on this story, see Horton, 2003).

This affair went on. In the summer of 1999, French farmers and consumers led by José Bové attacked McDonald’s restaurants. They shouted slogans against genetic manipulation and against global market advocates, who, they asserted, would not obstruct such practice in any way. In the spring of that same year, the American government had shown its irritation with this “irrational business”, insisting that genetically manipulated soybeans could not be identified from regular soybeans. But by next autumn the turning point came. The term “consumer concerns” – ethical wishes of consumers – turned up everywhere.

Protests and consumer concerns now arose also in Brazil, the world’s number two producer of soybeans. As a result, the Brazilian government announced a ban on the production of GM soybeans. The large baby food producers in the United States then declared that they would no longer buy GM soybeans and would switch over to Brazilian soybeans. Monsanto felt that it was getting crunched by the consumer concerns. It declared that it would stop using terminator genes, the genes that cause seeds to become hybrid and thus infertile.

Since that time it has become increasingly difficult in the United Kingdom to obtain permission (or better: public support) for test fields. In the Netherlands, potato producer Avebe has stopped further testing with genetically modified potatoes. And my own employer, Wageningen University & Research Center, the largest food research center in the world, announced in the fall of 2000 that biotechnology in relation to crops no longer had priority. In the UK, the commercial production of gentech crops has been forbidden since November 1999 (*Agrarisch Dagblad*, November 10, 1999). And in the United States, preparations are underway for a series of legal actions related to genetic drift, the phenomenon that seeds and pollen of genetically modified crops are often scattered hundreds of miles by the wind, ending up in private fields of others. Who knows, the severe legislation related to private property might be the ultimate blow for GMOs.

This short history of biotechnology with regard to crops shows how significant consumer concerns in the field of nutrition and food production systems have become. These concerns emerged when the food systems were no longer strictly based on supply, but increasingly on market demands. The concerns involve issues related to health, animal welfare, sustainability, and fair trade.

Consumer concerns are new. Unlike the earlier protests against ecological and environmental pollution in the 1970s and 1980s, they do not appeal to nature in its pure state. Since consumer concerns focus on nutrition and on the underlying

production processes, they assign a central position to domesticated nature, and to how it should be treated.

From this viewpoint it is not necessarily a problem of principle that this type of boundary is exceeded. That has been done in the improvement of crops and the breeding of farm animals as long as agriculture has been around, since some 10,000 years. The issue is not *whether* nature must be managed, but *how*. On the basis of what principles? Based on what ethical insights?

Social analysis – advocates and opponents

Organizations ranging from the United Nations to the food industry tell us wonderful stories about the social benefits of modern biotechnology: through genetic modification, agricultural experts can abolish all sorts of deficiencies, such as related to iron and vitamins.

One of the greatest problems is the issue of global famine. To what extent can biotechnology contribute to solve this? At this moment, some 700 million people are underfed, including 100 million poorly fed and underfed children (Nuffield 1998; Pinstrip-Andersen 2001; Fresco 2001; UNDP: *Human Development Report*, 2001). Advocates of modern biotechnology paint a rosy picture of a paradise in which the causes of disease, hunger, malnutrition, and environmental pollution are at last tackled!

Genetic modification, after all, can change the genetic basis of these phenomena. The genome of organisms that cause diseases or environmental pollution will be charted in detail and changed. “The world has just begun to see the benefits of this technology, but as more products of plant biotechnology come onto the market, such benefits will only increase. The first of these is the simple, but still growing benefit that arises when hungry people have enough to eat.” Thus says the Council for Biotechnology Information, an organization of companies in the field of biotechnology.

People have always been engaged in altering the boundaries between species by breeding, cultivating, and improving; there is nothing new under the sun. But paradise is now upon us, because we can eat whatever we want without growing fat. We can make fruit and vegetables even more nutritious by adding vitamins, minerals and proteins, such as high-lysine and high-methionine in corn and soybeans (Galston 2000, p. 40).

Food will increasingly be differentiated by customizing it to specific groups, such as elderly people, teenagers, pregnant women, young children, and the growing group of patients with allergies. Everyone will benefit: producers since they can gain higher profits from their investments; farmers since they can earn more without having to work as hard; people living in developing nations since they will eat rice that is supplemented by vitamins or even vaccinated against illnesses (Council for Biotechnology Information, www.whybiotech.com). Diseases will be banned, or at least no one will be seriously ill anymore.

The general public is warned not to have other opinions. “Genetic modification is inevitable. Like electric power, road transport, or computers, it is a facet of the future and the public will gain little by campaigning to ban this potentially rewarding technology” according to Ford (2000, p. 65). The implication is clear:

whether you like it or not, you will have to eat it; if necessary we will stuff it down your throat. That may well be one of the most irritating things about the advocates: their total contempt for the opponents. They portray them as Luddites, the early 19th century workmen who destroyed laborsaving machinery. Conversely, the advocates are sometimes called Frankensteiners. That is also not very conducive to the quality of the debate and the search for solutions.

The opponents portray a path of growing misery, moral decay, natural disasters, and environmental pollution. Genetic modification will lead us onto the way of moral degeneration. If we allow it to subsist, then there is no stopping it, and nature might as well be relinquished in full. Small farmers will be pushed out of the market. The risks to human health and to the environment will increase due to the possibilities of interference with our genes and of superweeds and the lessening of nature's biodiversity (Mephram 1996, 1999). Radical groups, especially those with a religious orientation, speak of the dangers that arise when we act as little gods, which, they assert, genetic modification and the alteration of the species comes down to. Commercial repression of nature, gaining profit from the suffering of animals, and overstepping the boundaries of the species are all seen as expressions of human pride, which will bring down a curse on us (Kneen 1999).

On a number of important points, the radical opponents and advocates come to identical conclusions. Both groups are opposed to the labeling of food. They are against a duality with genetically modified food on the left and genetically unmodified food on the right. Benedikt Haerlin, official spokesman of Greenpeace for biotechnology, and Miriam van Gool of Greenpeace Netherlands, for example, claim that no distinction can be made between crops that are genetically modified and those that are not, that genetic pollution by GMOs represent a threat to biodiversity, and that they should therefore be banned.

The consequence of this position is that supermarkets may likewise not make any distinction, so that consumers are not in a position to choose. But advocates, being opposed to labeling as well, are similarly against consumers being able to choose. Neither group chooses to recognize the sovereignty of the consumer, believing that they can prescribe what is good for others.

A second argument, which is applied in the same way by both advocates and opponents, relates to the benefits and drawbacks of GMOs for developing countries and regions with high population growth. Advocates, such as Monsanto and the former American ambassador to the Netherlands, Cynthia Schneider, simply assume great mutual advantages when Monsanto or other American companies dump their GMOs in these regions. Greenpeace and other opponents also do not want to allow farmers in developing countries to make their own choices. During the great protest demonstration in The Hague on September 29, 2001, several speakers who were moderately pro-GMO were jeered; their remarks were left out of the final conclusions by chairwoman Ria Beckers. Bio-ethicists likewise do not always respect the preferences of advocates. That is tantamount to western imperialism, since it takes no account of the wishes of developing countries. Fortunately, a large group of interested persons takes a more moderate position. They point to the lack of clarity and the obscurity of the procedures and to the political errors that are made.

They consider the refusal by industry to introduce labeling a form of lack of respect for the consumer (Thompson 1999).

Ethical analysis – risks, values, and global hunger

The normative debate about biotechnology for crops focuses on three categories of complex problems. Firstly, the metaphysical and religious objections against the transfer of genes from one species to another, that is, transgression of the boundaries of the species. The second problem category relates to the potential risks for human health, for ecosystems, and for biodiversity. The third category involves great social issues, such as power, decision-making, the unequal division of resources, and the elimination of hunger in the world.

The metaphysical objection maintains that there is a universal commandment that forbids transgressing the boundaries of the species. Such boundaries are said to determine the properties of the species, and those are inviolable. A significant though vague concept that is applied here is the integrity of plants and animals. This integrity is said to determine the nature or essence of the living organism. If this is violated, then the organism is violated (see chapter 7.4). There are instances, however, where genetic modification does not lead to welfare problems for animals and even increases their welfare, for example by remedying inherent defects. According to this position, genetic modification is not permitted even then, for the integrity of the animal must be respected.

There are also ethicists who have fundamental, deontological objections against genetic modification (for example, from the concept of animal rights; see chapter 7.4). A first problem with this approach is the definition of the boundaries of species. Are these determined by external characteristics (such as mating behavior or the position of the ears, just to name a few) or by the DNA pattern, in other words, the genetic basis? It turns out that the boundaries between species are decided on a conventional basis, so that nothing keeps us from drawing other species boundaries on the basis of other perspectives, such as DNA patterns. But that would require further knowledge of genetics, which is, however, anathema.

A second problem is the fact that, in agriculture and in nature, the boundaries of species have always undergone change. During millions of years, biological evolution has led to the emergence of new species, with gene transfer occurring intensively during the process. DNA technology does not differ in this respect (it does in others) from the traditional techniques of breeding and improving and from the never-ending attempts to transfer the specific properties of one plant to another.

Lastly, these metaphysical objections are applied very selectively. Medical applications – such as the production of insulin via genetically modified bacteria to combat diabetes – are not rejected. The same applies for applications on micro-organisms, such as in detergent enzymes and yeast. I should add that these metaphysical objections against DNA transfer may sound religious, but they are not endorsed by all religions. Buddhism and Confucianism, for example, have no issue with genetic modification.

Anyway, simple solutions do not exist, and reasoning from principles does not help much. The various aspects and far-reaching consequences related to the issue need to be examined thoroughly. As I have argued before, there are no simple

solutions in agriculture and nutrition because these issues are closely intertwined with all sorts of more distant and less obvious matters, such as the landscape, the creation of jobs, and the possibility (or impossibility) of proper control.

The second problem category in the debate on standards for the biotechnology of crops relates to the risks of GMOs to human health. Medical applications of genetically modified products and the application of crops in laboratory, field, or large-scale experiments have until now not led to negative results (Letourneau, 2001). Absolute safety can obviously not be guaranteed, but continuous inspection, diagnosis, and testing are necessary. This requires reliable institutes and networks for the control and collection of data, properly equipped for the long-term consequences of the application of GMOs. But even if such institutes exist, they are not financially equipped for this sort of long-term inspection research (Clark & Lehman, 2001).

A second issue in connection with health risks is the difference between the American and the European way of testing. Most American tests start out from the principle of substantial equivalence, meaning that they assume that a GMO only differs from a non-GMO with regard to the altered genes that contain the genetic code for proteins. In GMO tests, rats are fed with the specific proteins of which the genes have been altered. If no negative result is found, it is concluded that the organism is substantially equivalent to a non-GMO. It is therefore assumed that the other genes, those that have not been altered directly, have indeed not undergone any alteration as a result of the interaction with the modified genes.

This method is quite unreliable, since it is known that genes can activate or deactivate each other. For that reason a more thorough testing method takes place in Europe, involving the entire modified organism. (A 2002 report by the National Academy of Sciences recommends that this testing method be also applied in the United States.) Nevertheless, until now no significant health or ecosystem risks have been identified. Certain risks are associated with these organisms, but these are not inherently related to the technology, such as the risk resulting from the introduction of nut genes in certain crops. Rather many people are allergic to nuts, and their allergy may kick up with these modified crops.

An additional problem involves the effects of GMOs on the environment. This relates in particular to the possibility of the occurrence of herbicide-resistant superweeds, genetic drift, uncontrollable resistance, and other hazards for non-modified crops and organisms.

Field tests do not substantiate such risks, but it is necessary to remain on guard (Madsen and Sandoe, 2001; Letourneau, 2001). The two famous hypes reported in *Nature* (the monarch butterfly becoming extinct and the uncontrolled spread in Mexico of genetically modified corn into regions with natural corn variants) turned out to be either incorrect or based on improper assumptions (Quist and Chapela 2001). In the corn case, illegal genetically modified corn was probably grown in the vicinity of the natural corn variants. *Nature* came back on the subject five months later, reporting that there was no evidence that the genetically modified corn had come from afar. In view of the illegal import of such corn into Mexico, the genetically modified seeds could well have come from very nearby.

A well-known objection against the first generation of GMOs, involving herbicide-resistant crops, is that farmers may decide to use more rather than less herbicides (chemical products), since their plants are no longer subject to the negative effects of use of the herbicide. (Herbicides are chemical products for weed control; herbicide-resistant crops are by definition not affected by these weed killers. Pesticides are products that combat diseases; pesticide-resistant crops are crops that have been made resistant against diseases.) However, this situation did not occur; instead, fewer herbicides were used. Exactly because so many herbicides are used on a large scale, and because they have such a detrimental effect on biodiversity and on the environment in general, it is essential that they are used less (Pimentel 2000). An informative article about genetically modified sugar beets concludes that these are safe, and that the same thing probably applies to other GMOs also:

“The conclusion of the ecological risk studies is that the resistance genes are indeed capable of spreading themselves, but that they no longer produce weed-like plants and that the introduction of herbicide-resistant sugar beets will most likely result in less use of herbicides and in improved maintenance of biodiversity.” (Madsen et al., 2001, p. 163)

The third central problem in the biotechnology debate relates to a variety of social, socio-economic, and cultural issues (Murray 2000). Important questions are: which groups benefit from technology, which groups bear the burden, how is nature dealt with, how should it be dealt with. And, last but not least: to what extent is the human race capable of feeding future generations, considering the worldwide population growth (8.4 billion by the year 2050), the reduction in farm land, changing food habits, and new vaccines and other disease-reducing drugs that can probably be added to foodstuffs (Pinstrup-Andersen 2001; Hodges 2000). These issues call for a concept of justice, both with regard to the current generation and future generations. Before I discuss these in detail, I wish to present the principal players in this sector. These are producers, governments and government research centers, farmers, supermarkets, and consumers.

The producers are usually large companies, sometimes with a pharmaceutical background. In the life science industry there is a strong trend toward large size. In 1998, 85% of the global market for pesticides in the hands of ten companies, which together earned approximately 31 billion American dollars. The world market for seeds likewise has monopolistic features. Roughly ten companies here have a combined share of 30%, with total revenues of 23 billion dollars. A mere four of these companies (Monsanto, Novartis, Astrazenica, and Dupont) dominate the market for genetically modified seeds. Salta and Pine Land hold 72% of the market for cotton seed in the United States, while Opioneer Hi-Bred (Dupont) holds 42% of the market for corn (UNDP 2000).

Secondly, there are the universities and large international organizations, such as FAO and ILRI, that either conduct research themselves or support national research organizations in this. In many African, Latin-American, and Asian countries, experiments are conducted with modified indigenous crops such as cassava and rice. Approximately forty crops, especially corn, cotton, canola, soybeans, potatoes, and

papayas, are grown commercially in all parts of the world, including the United States, Argentina, Canada, China, the Philippines, and Australia. In Madras, the capital city of Tamil Nadu, one of the southern states in India, a Women's Biotechnology Park is being set up. Farmers and scientists are engaged in biotech innovations (BBC, April 6, 2001). China has become one of the largest producers of GMOs, second only to the United States. Rice, grain, potatoes, peanuts, and cotton are being modified on a large scale by small farmers; the positive effects for crops and for farmers (who come into less contact with pesticides and herbicides, which are even more harmful) are evident (Huang, 2002; Echols, 2001, p. 73 et al.).

Thirdly, the farmers. Small farmers in particular are important stakeholders, and not just because they constitute the majority of farmers in the entire world. Sometimes they receive support from technology programs, but not often. Supermarkets are major stakeholders in the western world, because of their share of the consumer market and their constant impulse to exercise control over their sources of supply, both in the local and international context. The largest grocery chains, such as Carrefour and Ahold, have enormous contracts with farmers in developing countries. They are proud of their direct contact with consumers and in fact have first access to them. But opinions differ as to whether they always assess the wishes of consumers correctly, let alone their interests. After all, modern consumers are difficult to reach. Consumer associations likewise are only indirectly in touch with consumers and do not always know what consumers want.

Justice in this context means that a proper balance is maintained between benefits and drawbacks. In the case of biotechnology, only large companies have until now benefited from this. Since some time these companies claim that they want to eliminate hunger and malnutrition from the earth, but it is not clear how serious their claim should be taken because they have never shown much concern about these problems in the past. Their role is doubtful at the very least, and a sudden turnaround on behalf of the poorest of the poor is rather unlikely. Their shareholders would not be happy about this; they want to see profits. These companies are obviously not immune to the pressure of public opinion, but that is still very weak on a worldwide level (see chapter 10).

Public research institutes, however, both local and international, could make a real contribution, all the more since they are subject to control and can be held accountable (but see chapter 9.4). These institutes are also in a better position to respond to the needs of the poor. This relates not only to agronomic improvements, such as resistance to drought or disease, but also to elevation of the health value of crops. The addition of vitamins and minerals can play an important role in the improvement of global public health. Responding to the specific wishes of developing countries and the development and production of special GMOs can result in great benefits and is therefore welcomed by these countries.

Resistance against drought, diseases, and viruses (some 30% of harvests still gets ruined by diseases) and increase of production levels are issues for which the developing countries are constantly asking attention. The current population explosion calls for both social and technical (agronomic) measures. Social measures only, in the sense of improvement of distribution systems and better access to food systems, are not sufficient. Production levels must also increase. A relevant

consideration in this regard is that bacteria and viruses are constantly becoming resistant, so that almost inevitably a struggle takes place between bacteria and human beings at the molecular level. Just to keep production levels constant, technical improvements are necessary all the time.

This struggle between mankind and bacteria has been going on since ten thousand years ago, when agriculture and domestication got underway. The feeble stories by Greenpeace and some bio-ethicists (such as Verhoog in the Netherlands and Meyer-Abich in Germany) that mankind must live in peace with nature are thus altogether pointless. Ensuring food for five billion people, and soon ten billion, simply requires intervention in nature and constant care for crops that are endangered. Many American and international organizations such as FAO, UNDP, and the Nuffield Council believe that GMOs can relieve world hunger and malnutrition, and many African, Asian, and Latin-American organizations (an example is the Community Technology Development Trust in Zimbabwe) fully support this view.

Other organizations are against, such as Actionaid Brazil. They are supported by Greenpeace and by American, Indian, and British philosophers including Mark Lappé, Vandana Shiva, and Ben Mephram. All adhere to the view that “biotechnology lures more people in the hunger trap”. The evidence to support this view is not very strong, and it seems to me that developments such as computerization and the spread of communication technologies contribute much more to poverty, because they lead to the loss of jobs and other miseries. Satellites, for example, give farmers quicker insight into the situation on their land, causing much manual labor to become superfluous. Furthermore, these technologies require larger farming enterprises, forcing small farmers (the majority of farmers in developing countries) to give up their business and thus their mode of existence.

It is essential therefore that biotechnology becomes embedded in the local circumstances and that the question “what does it offer small farmers?” becomes central. Biotechnology experts will not bring us heaven on earth – I agree with the opponents in that regard – but they also do not lead us to hell.

In chapters 5 and 6 I have developed a contextual principle of justice. The fair division of food and respect for the autonomy of all is an extremely important guideline, but it is not an absolute principle that must apply universally. It must be applied within the context, taking local circumstances and values into account. Taking into account does not mean that local values must be decisive under all circumstances. On the contrary, both approaches are subject to the burden of evidence that the local population will benefit. The contextual principle of justice means that people are respected, just like their involvement in the specific circumstances in which they shape their lives.

This contextual interpretation does not require a consensus about fundamental values. It likewise does not mean that universal standards get a rational status, or that special standards and values that are determined by the cultural setting have an insignificant status. Within society, it is essential, both in the short term and for the more distant future, to learn to live with conflicts in standards and values and, where

frictions occur, to agree on transition, interference, and coordination rules (Korthals, 2002).

Various biotechnical approaches

The European Union, many developing countries, and the Dutch government, represented by its former minister of agriculture Laurens-Jan Brinkhorst (*NRC Handelsblad*, January 22, 2000), have opted for a moderate and socially responsible position in the debate about genetic modification. It is a constructive stance, allowing for further social regulation and societal embedment of biotechnology and genetic modification. The core of the debate must be about this regulation and embedment, and it must focus on the question what nutrition can mean for western and non-western people in the next several decades. The population explosion, especially in Asian countries, and the need to alter traditional diets because of the ageing population and the individualization in the western world, are key issues. The second and third generation GMOs are directed at these issues, including disease resistance and agronomic circumstances such as abiotic stress (drought, humidity). The introduction of genes that regulate the production of extra vitamins or render vaccination superfluous is now possible.

The social implications must always be taken into account in all these cases. Government research institutes, both local and international, have an extra responsibility in this regard. Very promising are the various tailor-made research programs, such as the Andhra Pradesh The Netherlands Biotechnology Programme (APNLBP), the Kenya Agricultural Biotechnology Platform (KABP), Biotechnology Trust Africa, the Science Technology Policy Research Institute (STEPRI) in Ghana, INIFAT of Cuba, and the Community Technology Development Trust in Zimbabwe.

All these organizations concentrate on the combination of social justice and technological development, with special focus on the living conditions of poor farmers. The Zimbabwean Mushita says:

“Biotechnology is an instrument that must be adapted to and aimed at specific African situations and problems. Biotechnology transcends technological boundaries. Those whose lives are changed by the products of biotechnology must decide about the use of the technology.” (Mushita 2001)

Tailor-made biotechnology is the guiding principle. Technology is thus regarded as flexible and adaptable, allowing for alignment with the specific circumstances and preferences of local groups.

Until now the experience with this tailor-made biotechnology has been positive, partly because the latest development technologies are becoming cheaper and less dependent on specialized technicians. Marker and PCR technologies, which apply diagnosis to determine whether crops are potentially resistant to disease, are easier to apply. With these diagnostic technologies, farmers do not need to change the

genome of their plants themselves. They allow a combination of traditional and new technologies.

It may well be that the ultimate wish to let consumer preferences determine the production of food crops is still a utopia, but in Wageningen a large experimental project is nonetheless underway, in which consumers are co-determinants of alternatives for meat products. In this project, called Profetas (Protein Foods, Technology and Society, www.profetas.nl), consumer wishes, including ethical criteria, have been incorporated from the onset in the design of new technologies.

Embedment of biotechnology in sociocultural contexts

Heaven and hell are the most commonly used metaphors to describe the new technologies, but they do little to enlighten, and they certainly do not help us in dealing with these technologies. The technologies are complicated, hold all kinds of possibilities, and can be embedded in the sociocultural context in different ways. If that happens, then they can indeed contribute to reduction of the use of chemical pesticides and herbicides. They can then enrich food with vitamins and minerals. And, through the removal of allergenic elements, they may even benefit the health of certain risk groups.

Total rejection and total acceptance are meaningless, since they leave many issues unattended and up in the air. The deontological and/or utilitarian approaches and their variants fail to take the wide range of technological developments into account and are thus insufficiently equipped to support the embedment of these technologies. The complexity of cultural embedment calls for a thorough investigation of what is happening here. That is why I developed the deliberative variant that is described in chapters 5 and 6. It is appropriate for the ethical standards and values of the players involved, takes the uncertainties of technological developments into account, and emphasizes the need for negotiation.

Forced by public opinion, risk analysis has been expanded in Europe (not in the United States), so that additional factors are covered (such as the environment and biodiversity). Nonetheless, no information has turned up that would support the thesis that GMOs involve risks. In addition, detailed risk calculations are made in the Netherlands since recently that apply the Monte Carlo calculation method (www.rikilt.nl). This means that the various food products that a person consumes during a day are examined in their totality, rather than a single product as is done in a point estimate. This method is not yet accepted internationally, however.

New social institutions are needed that bring consumers in contact with food experts and producers, to negotiate about the acceptability of risks and to decide about the priorities for biological research. Decisions must not be made by managers behind their closed doors. The new social institutions should also cover GM agriculture in the third world, for there are various issues here, such as that of the patents and rights of farmers, and of the maneuvering space that the various parties involved have. In line with my argument later on in chapter 9, I am not, however, in favor of full local self-determination since local authorities cannot oversee the full range of biotechnological applications. We need a fair and peaceful international set of regulations to prevent a chaos of quick biological innovations that are uncontrollable and only focused on short-term profit.

Necessity of debate and consumer sovereignty

I believe that consumers must be treated as adults. Given the fact that many of them have opposed to genetically modified food, it would seem obvious that these are seriously considered, and that these consumers are not portrayed as dumb or irrational. Furthermore, genetic pollution is something that measures can be taken against, just like against the threat to biodiversity. There is thus no need to ban GMOs, as Greenpeace would want. Crops can be physically isolated from each other. Also, there are genetic modification techniques that do not involve seeds and that make it possible to restrict activation of a specific gene under specified conditions only.

Other applications of genetic modification, especially those related to micro-organisms such as enzymes, involve a greater risk of penetrating into the environment. Greenpeace is silent about these, since they involve medical applications that no one has doubts about. All human technological activity involves risks. What we must do is weigh the social risks carefully and handle them as carefully as possible.

On the other side, there are many consumers who see the positive aspects of genetically modified food and claim to benefit from it. This group must be respected as well. For example, biotechnology has been instrumental in the development of various functional food products that meet the extra needs of elderly people for specific vitamins and calcium in preventing osteoporosis. Also, all sorts of food products that reduce the likelihood of cancer will soon appear on the market. Another example is milk enriched with human genes; many people can simply not drink regular cow milk, so it is to their benefit and interest that such products become available.

Advocates of genetically modified food must therefore be respected as well. Sociocultural developments such as the ageing of the population make traditional diets inadequate, so that drastic changes therein will be needed. Elderly people have a great need for nutraceuticals such as food enriched with calcium and vitamins. Genetic modification can play a role here (see the next section). The offensive that Greenpeace and other radical opponents conduct against all genetically modified food means that the consumer cannot personally choose in the supermarket. It constitutes a violation of the right to freedom of choice on the part of consumers.

On the other hand, the views of radical advocates ignore the fact that consumers may have good reasons to be against genetically modified food. Their reasons may not necessarily be scientific, but the issues are such that scientific considerations alone cannot be decisive. After all, the sciences do not give a uniform answer in the many controversies and risks related to genetic modification. It would be unreasonable therefore for consumers to resign themselves to this uncertain situation.

8.3 *Between food and drug – functional food*

“Good for the heart and for blood vessels, stimulates fitness and good health, prevents loss of memory, promotes good eyesight, prevents prostate enlargement.”

These and similar claims appear on various supermarket products that fall under functional food. Becel Pro Activ (a low-fat margarine), Extran (a sport drink), probiotic yoghurt drinks such as Yakult, meat with more unsaturated fatty acids, vegetables with extra vitamins: all of these products, called functional foods, appear in growing numbers in our supermarkets. A typical feature of health food or functional food is that it is not only associated with good health, but also claims to help improve performance – improved memory, better eyesight – or to lead to better outer appearance. For an ageing population, functional food seems to be the solution to leading a long, healthy, and youthful life. Functional food is thus not merely convenience food for fast-living yuppies.

In this section I will discuss the specific issue of food products that claim to promote health: functional or health food. In the following section I then go more deeply into the processes that take place during the production of these food products and those that follow upon their intake; this involves insights into the genetic activities pertaining to the raw materials of food products and those pertaining to consumers. Functional or health food products are therefore a junction in the entire chain from raw material to consumer and the further physiological consequences for the body of the consumer.

Functional food promises more than just sufficient nutritional value; it is also good for a number of bodily functions, thus leading to greater welfare. Many people claim that functional food has the future, consumers ask for it, and producers are happy to produce it. After all, it can contribute significantly to a healthy, long, and quality-filled life. It can work just as effectively as drugs, save on health costs, and enable consumers to function longer as full-fledged members of society. Nutrition is said to contribute in six out of ten cases to the cause of death – so why not undertake something with food to improve our health? On the face of it, a simple matter: everyone benefits from health food. Tomatoes with a higher flavonol content to prevent cardiovascular disease; sugar beets with sugars that contain fewer calories; potatoes that absorb less fat when fried – who doesn’t want this?

But there are also votes against. They fear that, with the rise of health food, the traditional eating culture of regular meals will disappear, as food is taken in through pills. Others point at the potential risks of health food, at the lack of control over asserted claims, at the drawbacks of the disappearance of the distinction between nutrition and health, at the personal interest of the food industry that sometimes is counter to the interests of consumers. Food will become even more artificial, it is feared. Through a smart diet, claimed to be healthy, people can compensate their unhealthy lifestyle of little movement and getting around strictly by car. Some maintain that it is undesirable to mix food and drugs since this encourages compensating behaviour.

Apparently there are all sorts of problems in the choice of this food variant, and the solution that is chosen has great impact on the structure of the nutrition and health system, even on all of society. The first major ethical question that arises is: what is the meaning of food products in relation to that of drugs? And secondly: how can a proliferation of claims be prevented? In other words: does nutrition need to be treated in the same way as health, and do food products need to be treated in the same way as drugs? Will Albert Heijn become our drug store or family doctor, or will it be the other way around? Are such developments to be applauded? And who is going to investigate the claims of health foods, who is going to guarantee the safety of health food? Should we leave all this to market forces? Or does the government play any role here?

The general line of my argument will be that it is necessary to distinguish between nutrition and health, and between food products and drugs, and that a deliberative ethical theory is the best tool to shed light on the choice problems related to health food. The starting premise for the discussion is that food is a good that is saturated with normative values (chapter 4), and that food must be guaranteed by a public authority as far as its safety, health, and fundamental choice options are concerned (chapter 11). According to this view, safety and health are not just neutral categories, but also normative values that are shaped through widely followed public debates and developed by institutions into food policy standards, and that then serve as control instruments (chapter 11).

The various choices imply that views about the desired type of nutrition – including health food – must be respected. A fruitful dialogue must get underway about the different views and styles of nutrition, including those directed at health food. According to the normative theory that is described here, health food does not call for abolishment of the distinction between nutrition and health, and between food products and drugs, but for the establishment of a specific set of rules, the recognition of a new category, next to that of nutrition and health. Stated more broadly, the nutrition system must be regulated in such a way that the markets are responsive to the different views on nutrition (including the health food style) that are part of the cultural communities and lifestyles in this world.

The emergence of the health food phenomenon makes clear that, in western societies, nutrition has been treated until now on the basis of a general consensus cultural view. This view implies that nutrition contributes directly to the preservation of life and only indirectly to health. It assumed that an all-encompassing nutrition guideline for everyone was sufficient. The Dutch public information office for nutrition was instructed to produce general guidelines that would apply to everyone. It portrayed the requirements for a balanced diet in the form of a pie divided into separate slices for cereals, fruit/vegetables, fish/meat/eggs, dairy products, and fats. Public policy and that of other partners in the food chains was based on the premise that there must be enough food, so that hunger would be prevented. This policy did not take into account that optimal nutrition can contribute, through the various food ingredients, to a long and healthy life.

The traditional view assumes that good health is achieved through a properly balanced and varied total food package, which should be the same for everyone. In the food sciences, this view is expressed as a paradigm in the sense of Kuhn (see

Belt et al. 1999). A typical feature of the old paradigm is the following passage from the 1988 edition of C. den Hartogh's textbook *Nieuwe gezondheidsleer* (New Health Science):

“There has been much discussion about the question whether the claim of health in relation to a food product is justified. Food products derive (...) their value from their position within the total food package. Attributing quality to a single product is therefore incorrect.” (Den Hartogh 1988, p. 464)

Based on the central dogma “that Dutch nutrition contains all essential nutrients in sufficient quantity, provided that it is made up in a well-considered way” (idem, p. 424), it was generally considered unnecessary to enrich food products with vitamins and other nutrients. The possibilities for enrichment were not expanded until the introduction in April 1994 of the legal exemption for vitamin preparations and in May 1996 of a legal commodities regulation governing micro-nutrient supplements in food products.

This battle between the old and the new paradigms was already waged in the United States since the 1960s, having flared up in response to questions about the effects of vitamins. There also, government bodies were the last to change course and certain consumer groups the first (Levenstein, 1993).

The traditional view that nutrition does not directly contribute in a preventive way to a long and healthy life is increasingly challenged by scientific and technological developments in nutrition and will at a minimum face tough competition. The view that generally prevailed until the 1980s has been supplemented by all sorts of new or renewed views, which have grown as a result of scientification (new insights into the preventive effects of certain ingredients), globalization (the containment of information flows), and individualization (insight into the roles of personal physical constitution and of lifestyles).

Functional food is part of this. It identifies nutrition with health, and food products with drugs. Its premise is that optimal nutrition can contribute to good health, or, more precisely, that certain ingredients that have hardly any nutritional value of themselves (such as vitamins and other bio-active components) can lead to optimal health (Roberfroid 2002). For a normative theory this challenge means that a determination must be made as to how adherents of health food, as well as of other food-related views that do not associate food with health or at least not exclusively, can achieve an accepted position, and how the options related to the positioning of health food can be handled.

The discussion around health food, just like GMOs, shows once again how scientific and technological developments can lead to new value patterns in relation to nutrition (which is something different from the imposition of such patterns). These developments can also create awareness that a value pattern that was dominant for a long time (e.g. the diet pie) may unjustifiably be assigned general validity. This shows that nutrition is a key element of culturally shared views about what makes life worth living (“comprehensive doctrines of the good”), something that until now was disregarded by liberal theories, such as that of Rawls, or

communitarian theories à la Aristotle. As with nature (Keulartz 1997), the subject of nutrition has led to a conflict between food styles, not only about the way in which different views may live side by side in the food markets, but also about the role of government and moral principles in this process.

Slogans and products

Here are some familiar claims of health food products:

- It increases your stamina,
- enhances your immune system,
- supports your brain functions and sharpens the mind,
- gives you greater energy,
- improves your intelligence,
- helps you perform at top level.
- improves the memory function and leads to greater alertness,
- reduces feelings of fear and anxiety.

These slogans are tied to various products that belong to health food:

- Meat: less fat.
- Milk and dairy products: probiotics keep abdominal bacteria in balance; contained in Yakult, Vifit, yoghurt with cholesterol-reducing effects.
- Butterlike products: Benecol, Becel Pro Activ; reduce cholesterol.
- Drinks: Stimulance stimulates bowel movement; vitamin-rich tea; sport drinks such as Gatorade and Red Bull.
- Vegetables: enriched broccoli; tomatoes (genetically modified tomatoes lead to three times more vitamin A via beta-carotene (Giovannucci 1999)); prevent cardiovascular disease; even better than drugs.
- Supplements: vitamins (separate or in food products).

Descriptions that circulate in literature

Functional food is produced by the enhancement of existing properties (or the introduction of healthy ones) in recognized products, by the creation of new products, or by the creation of new raw materials (value-enhanced crops; see German 1999).

DeFelice, inventor of the term nutraceutical and functional food guru, offers the following definition:

“Every substance that can be considered to be a food product or part thereof and that provides a medical health benefit, including the prevention and treatment of an illness. Such products can be dietary supplements, diets, and isolated food products, or genetically modified designer foods and processed products, such as cereals, soups, and beverages.” (Stacey 1994, p. 107)

Some authors only mention the health claim that is associated with functional food. But that is only one type of claim; other claims are often associated with functional food, such as better brain performance. Others, especially opponents, equate functional food with convenience food. Such characterization, however, is off target. First of all, many functional foods are just as elaborate as traditional food products. Next, the time spent by a consumer to become familiar with functional food is considerable, although the time required to prepare functional food may well be limited. Thirdly, health food is also intended for risk reduction of ailments that may arise in the long term.

The definition of functional food that will be used here comes from ILSI Europe (Scientific concepts of functional foods in Europe: Consensus Document, 1999):

“Food can be regarded as ‘functional’ if it has been demonstrated by sound scientific research to affect beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way that is relevant to either an improved state of health and well-being and/or reduction of risk of disease.”

In general, no medical claims are made with functional food (that it heals a certain illness), other than preventive claims (that it reduces the risk of a certain illness). Only a general health claim is made, namely that functional food is in some way beneficial to health or some bodily function.

Based on these definitions, I will apply the following classification, which comes from Sloan (1999). It accounts for four types of products and related claims:

1. Products that diminish risk, such as cholesterol levels and blood pressure.
2. Products for the treatment of illnesses (cardiac disease, arthritis, diabetes, cancer, osteoporosis).
3. Products for self-medication of non-acute disorders (insomnia, psychic problems such as depression, indigestion).
4. Products for enhancement of activities (such as mental alertness, eyesight, skin improvement, cosmeceuticals).

Other terms that are used include medical foods (for category 1), nutraceuticals (categories 1 and 2), nutritional foods, pharma foods (category 1), designer foods (especially categories 3 and 4), fitness foods (category 4), and therapeutic foods.

The markets

In the United States, the total market for health food products in 1995 was estimated by fervent adherents such as DeFelice (1998) at 250 billion dollars, roughly half of the total budget for food products. The Food and Drugs Administration (FDA), the food authority of the U.S. government, arrives at a much more conservative estimate. It estimated total spending at 17 billion dollars for functional food and 15 billion dollars for supplements. All sources point at the fast growth of this market.

In the United States, the main products being developed are aimed at prevention of cardiovascular disease and obesity. General food products information focuses heavily on health (Levenstein, 1988).

In Japan there is large production and great consumer interest, especially in beverages. The product assortment is much broader than in the United States and Europe. For example, functional food ice cream is available, made from non-fat soybeans.

In Europe the interest on the part of producers and consumers is less but growing. The products are mainly directed at gastro-intestinal health (DeFelice, 1998). Food producers are generally more interested in functional food than the pharmaceutical industry (which is understandable, considering that profit margins are lower in the food sector), and until now these two industries are going their separate ways (Dagevos et al., 2000).

Industry

Fifty-five percent of companies in the pharmaceutical and food production industries invest in research in functional food. According to an article in the *New York Times* (December 24, 2000), “supermarket of the world” Archer Daniels already invests more than 50% of its production in functional food. All sorts of soybean products such as soybean ice cream, soybean burgers, soybean cookies, and soybean rolls (all tasteless according to the journalist) lie on the shelves waiting for customers. Novartis, Unilever, Danone, and other giants likewise invest in functional food (Dagevos et al., 2000).

Producers are seeking to have the ban against health claims of food lifted. They consider their profit margins on regular food to be low and believe that they can earn high profits with functional food. DeFelice (2000) predicts that profit margins will be twice as high and expenses only one-fifth of that in the pharmaceutical industry if less severe demands are placed on clinical tests.

Governments and government regulation

Government bodies look for great benefits from the introduction of functional food, in light of the prediction that sickness costs will rise less sharply if everyone consumes such food. With a healthier diet based on functional food, personal health and the quality of life can be improved, so that hospital costs would drop by approximately 16% (Hüsing et al. 1999). In contrast, illnesses related to unhealthy food lead to high healthcare costs. For example, cost estimates related to obesity (30 kg or more above optimal body weight) range up to 99 billion dollars per year (Schlosser 2002). Sixty-six percent of deaths is related to poor and unhealthy food, as well as 33% of the costs of the food system (Hüsing et al., 1999).

The FDA is the regulatory agency in the United States for food and drugs. It has only approved health claims with regard to nutrition, that is, claims that relate to lessening of the chance of a particular illness. It is not permitted to link claims to nutrition that deal with the treatment or control of an illness (medical claims). The Nutrition Labeling & Education Act, which was enacted in 1990, and the Dietary Supplement Health & Education Act, enacted in 1994, make a distinction between foods and dietary supplements, and between drugs and dietary supplements. In fact,

no approval is necessary for food supplements, such as vitamins, herbs, and calcium tablets. In the summer of 2002, however, the Government Accounting Organization submitted a report to the U.S. Congress, recommending further regulation (GAO 2000, *Food Safety. Improvements Needed in Overseeing the Safety of Dietary Supplements and Functional Foods*). Functional foods are often distinguished from supplements, medical foods, and dietary foods. The FDA has separate regulations for each of these three categories. However, when supplements are included in the food product, then they fall outside their own specific regulation.

In the Netherlands, a distinction is made since the General Commodities Act of 1988 between medical claims and health claims, applying roughly the same description as in the United States. In 1998 the Health Effects Code of Conduct was set up, which binds the principal players in the field to a regulation of health claims, but on a voluntary basis.

Role of nutritional and medical sciences

In the United States, there are various functional food and nutraceutical associations, all of which publish newsletters. It is estimated that approximately half of nutrition research scientists are engaged in functional foods. According to Levenstein (1988; 1993), food scientists in the United States are increasingly involved in the formulation of health and food policy of the various government agencies. In the 1960s it was generally assumed that nutritional science had just about reached its limits. The handful of scientists, plus some medical doctors and others who engaged in food research, were of the opinion that “food science ‘looked like a completed discipline’” (Levenstein 1993, p. 123). But ten years later, with the rise of the concept of health food, the situation is altogether changed. There is a broad consensus among food scientists about the great relevance of the relationship between improvement of health and good nutrition. Most are convinced that functional food can contribute to better health among the population.

The impact of the health sciences on government food policy is significant. A good example is the recommendation to limit animal fats in favor of vegetable fats. In the United States, this led between 1950 and 1992 to a 53% reduction in the number of deaths due to cardiac disease and a 70% reduction in deaths from heart attacks. However, it has meanwhile become clear that the first recommendations were simply wrong. These assumed that animal fats were unhealthy by definition and vegetable oils healthy by definition. That has turned out to be false. On the contrary, many vegetable oils contain saturated fatty acids (n-6 fatty acids), which contribute to cancer and chronic illnesses – as scientists now say (Watkins 2000).

In the Netherlands it has been known since 1985 that trans fats (a specific type of unsaturated fatty acids) have an adverse effect on cholesterol level and thus increase the chance of a heart attack. This knowledge has led to the reduction of trans fats in margarines and products that use margarine as a basic ingredient, such as cookies and snacks. It has been calculated that the chance of a heart attack has thereby been reduced by 23% since 1985.

History of the distinction between food and medicine

The ancient Greek physician Hippocrates goes into detail in his writings about the relationship between nutrition and health. The idea that food plays an important role in stimulating good health is thus not new by any means. What is new, however, is the study of the explicit and systematic relationship between illnesses, body functions, and specific food products. The emergence of functional food, plus the necessity to reassess the distinction between foods and medicines, is not a unique twenty-first century event. Also in the past it was often quite difficult to draw a line between foods and drugs. Many products switched from the one category to the other, depending on the definitions applying at the time.

Sugar is a good example. During the Middle Ages it was regarded as a medicine. Thomas Aquinas, when confronted with the question whether sugar should fall under the rule of fasting, came to the conclusion that sugar and sugared spices should be regarded as medicines: “Thomas regarded sugared dishes as a medicine: they do not break the fast, just like other medicines” (Mintz 1996, pp. 46-47). Not until the eighteenth century did sugar come to be regarded as a foodstuff. Still, because of its white and pure appearance, it was considered purifying and cleansing, even though we know it to be a product that is highly processed and refined. It is notable that the constantly newly conceptualized distinction between food and medicine was inspired by considerations that were not so much related to nutrition, but to rules around religious and social rituals.

Garlic has a similar history. Until recently, it was used even in western countries as a medicine, especially for the disinfecting of wounds (Stacey 1994). English army hospital personnel still used it, for example, during World War II.

Finally, it should be noted that in non-western countries quite different distinctions are maintained – or none at all. In traditional Chinese medical science, for example, no distinction is made between foods and drugs (Yanchi 1995).

Uncertainties and risks

The claims associated with functional food are difficult to compare to the medical or health claims that are associated with drugs. They assume long-term use, even though there is still uncertainty about all sorts of variables: about the quantity that a person should take of the product involved, and whether it should be cooked or eaten raw; about the physical condition or constitution of the person; about the person's lifestyle. Many nutrition experts are therefore fairly critical about functional food. Katan (2000), Koeman (2000), and Houtvast (Kasteren 2001), to name just a few, are very specific and clear about the shortcomings.

“According to Koeman, more attention should be given to the potentially negative side-effects of functional foods. They are not always innocent. It is known, for example, that fat-resolvent vitamins, such as A and D, and amino-acids are toxic in large quantities. Less well-known is that a Finnish study has shown that the antioxidant beta-carotin exacerbates lung cancer when taken in large quantities. Research conducted by Koeman and members of his own research team has pointed out that flavonoids do not

always work as anti-oxidants, but at times also as pro-oxidants.” (Kasteren, 2001; Koeman, 2000)

Nonetheless, functional food can have the same effect as a medicine, as Williams reports:

“We produced foods typically found in a UK supermarket but which resulted in a diet very low in saturated fats. The volunteers found the diet highly acceptable and, at the end of the experimental period, had cholesterol levels 15% lower than after a typical control diet. This effect was equivalent to the effect of some cholesterol-lowering drugs. Other unexpected beneficial effects of the diet were observed on immune function and blood clotting.” (Williams, 1999)

If functional food is just as effective as medicines, as is often asserted, then it is still possible that the interaction between prescription drugs and functional food will lead to problems and adverse side-effects. Specific cases of this are known (Levy 1999). Certain doses of specific forms of functional food can also be harmful for some consumers. As an example, there is plenty of evidence that excessive consumption of certain herbs that are used as food supplements can lead to illness or even death (Giese, 1999). The absence of regulation of herbs, that in the United States fall under diet supplements (and can be sold in any store), is problematic here. The report by Plaami et al. presents a listing of safety issues that are associated with functional food (in appendix 2).

Two controversies

There are consumer interest groups that promote functional food and groups that oppose such food. I will group the controversies into two main categories.

The first controversy relates to the regulation and monitoring of claims associated with functional food. These involve issues such as the health risks of functional food, the reliability of the claims, and the creditability of the producers. The advocates of functional food (industry, some nutrition scientists including DeFelice, and various consumer groups such as patients' associations) seek very liberal regulation, under which every claim is allowed. They are also of the opinion that the more lenient procedure for the approval of new food products should also be declared to apply to functional food, rather than the much stricter procedure for drugs. DeFelice, founder and chairman of the Foundation for Innovation in Medicine, USA, has proposed a separate Nutraceutical Research and Development Act (NRDA) that would allow a much more lenient policy (DeFelice, 1995; Adelaja & Schilling, 1999).

The opponents point to the health risks and express their doubts about the products and the current procedures. The Center for Science in the Public Interest, located in New York, recently called for the removal of 75 functional food products from stores, claiming that they represent health risks. Critics call for more regulation since, in their opinion, just about anything can be done with food in the United

States. CNN and the New York Times report regularly about nutrition and functional food.

In an article on its website on July 19, 2000, CNN wondered: "Is functional food dangerous?" The article speaks of a mushrooming industry, for which stricter FDA rules should apply according to opponents. In the article, Dr. Varro Tyler, retired Purdue University professor and an expert in the field of medical herbs, maintains that "the claims are exaggerated and ridiculous; medical herbs are drugs that do not belong in soft drinks." The intake of these food products can also have a very negative impact on health, as in the case of an overdose of vitamin C or D (Levy, 1999).

But vague claims and heedless cheers can also lead to problems, as an article by Watkins, that for the rest is jubilant about the health effects of Omega-3 fats, briefly describes:

"Initially, the association of cholesterol and saturated dietary fat with increased risk of cardiovascular diseases spurred dietary recommendations to reduce the intake of animal fat and to increase the intake of plant oils. However (...) increased dietary intake of plant oils [has contributed to] the development of some cancers and chronic diseases." (Watkins 2000, 1125)

The critics, or stated stronger, the opponents, assert that the advocates seek to benefit from both sides in that they wish to apply the extensive claims of medicines but not the related procedure. The critics point at the proliferation of claims, the risks of unhealthy and sometimes even dangerous effects and the necessity of a strict dividing line between drugs and foods. Medical and nutrition scientists point at the difference between drugs and foods, plus at the fact that drugs are tested in clinical trials and aimed at something specific, with consideration being given to the medical benefits and side-effects (Williams 1999; Koeman, 2000; Katan, 2000). Foods are an entirely different category. These involve general health effects, they may not have any side-effects, they must be healthy also in the long term, and large numbers of people are involved.

Critics maintain that numerous ethical problems arise as a result of these changes. In the first place, all sorts of claims are associated with functional food without investigation by independent experts. Every manufacturer is likely to bring a product onto the market that is said to protect against a certain illness or to safeguard against some ailment. Whereas drugs are tested intensively, this is not the case with foods, even though the claims are often just as forceful as medical claims. Considering the often unproved claims and the risks, a key ethical question is who holds ultimate responsibility for the inspection of nutrition claims.

Secondly, the cultural significance of food is a controversial subject. According to the advocates of health food, food is primarily something that contributes to personal health; taste and social and cultural aspects are secondary. Typical of this view are statements made by Patti Jo Sinopoli, director of Gatorade's communication and professional marketing department: "I jog every day after work. I rehydrate with a vodka or with Gatorade. It is not intended as a tasty product." She

adds the following explanation: “The physiology of your taste changes when you are hot and sweaty” (*New York Times*, January 3, 2001).

In the United States there is a long and dominant tradition to view food solely from the perspective of health, partly engendered by the powerful lobby of nutrition experts. Levenstein (1993) speaks of nutritional terrorism, an offensive of food experts that has led to consumers in the United States eating not for enjoyment, but to achieve good health. A symptom of this is the dominance of scientific food jargon in everyday American life. Consumers do not say that they are hungry, but that they would love some carbohydrates.

Critics and opponents of health food in the United States and elsewhere point to the other qualities of food, such as taste. Pepin, a famous chef in the United States, puts it this way: “When you exceed the boundary and no longer see food as a form of enjoyment, then you have lost much” (Stacey 1994, p. 10). But also pointed to are the social aspect and the communicative function, which are expressed in the common meal, and the distinctive function whereby nutrition contributes to a person’s identity, in short, the function of providing a sense of purpose. The critics fear that the disappearance of the distinction between food and drugs will lead to the medicalization of society, in the sense that individuals become increasingly dependent on nutrition experts in shaping their lives.

This can ultimately lead to food producers becoming druggists and physicians alike, with supermarkets and farmers as their assistants. People do not eat because they like their food, but because it contains the right amount of anti-oxidants or Omega-3 fats.

These changes are not as innocent as they may seem. They impact the entire biolandscape and all players involved, including food scientists and medical scientists, producers and consumers, government and industry. Medicalization can mean that elements such as taste, commonality, and distinction disappear – which a particular group of consumers would very much regret. At the same time, it is clear that another group of consumers considers good health increasingly important. The issue is how to deal with these rival food styles.

Ethical analysis of the two controversies

The two sets of ethical problems can best be tackled, I believe, via two questions that I formulated as follows in chapters 5 and 6: are we talking of problems that apply to everyone, or of problems that apply to certain groups? Healthy and safe food applies to everyone. But only certain groups wish or need food that is enriched with certain vitamins or fatty acids.

These two questions link up with two long traditions. On the one hand, we have the universalist school of ethics, as proclaimed by Kant, Rawls, and Habermas, involving ethical principles that apply to everyone. On the other hand, we have the more philosophical school of ethics, starting with Aristotle, which focuses more on values related to living a good life.

As I have shown in chapter 5, the liberal approach of Rawls maintains that it is essential that all citizens have equal access to education, culture, and the food system. (Rawls does not explicitly mention this last item, but we can assume it.) Public goods such as these are neutral with regard to the underlying views of the

good, and governments are not morally authorized to intervene. According to Rawls, there is no distinction between nutrition and health; both are neutral, instrumental goods that are entitled to government support. Everyone requires safe and healthy food; a society cannot survive without it. These goods therefore fall in the first category: safety (minimization of risks). Minimum health standards are therefore often called public goods.

But food is not such a neutral good. It is a non-neutral public good that, inherently and intrinsically, contributes to the identity of vulnerable individuals. Nutrition and health give rise to competing interpretations of, or visions on, the good life. What is called safe and healthy depends on philosophical considerations, which refuse to go away. One glimpse at the history of the food sciences in the various world cultures is enough to see that.

In the deliberative approach I have therefore tried to find links to express the pluralism in nutrition in a better way. Habermas was the first to develop this perspective, and he viewed the relationship between justice and the good in a different way. Principles of justice are always permeated by historical and cultural values and are thus not neutral. They call for interpretations of the good life to come into dialogue with each other, thereby enabling peaceful coexistence. Rules regarding nutrition and health thus do not have universal and general application. Instead, they embody historical conceptions of the good life, that can be applied in an impartial way to all conceptions of the good life that respect each other.

The universalist emphasis on the impartial application of these non-neutral principles does seem a fruitful idea to me. It means that, when minimum safety and health standards have been established in a particular country or trade block, every other view on food must concur with these. I have argued in chapter 7 that, in the production of food, animal welfare must likewise be incorporated in this way as a non-neutral but impartial criterion. If functional food complies with these requirements, then there is no problem, so that it can be allowed access to the market.

The realization of this is not without snags, however, since there are no reliable procedures and institutions in the Netherlands, and in the rest of Europe for that matter, for testing of potential food products. Nonetheless, if a specific group wishes to consume functional food, then it must be allowed to do so. Based on the universal principle of justice, there is thus good reason to plead for clear involvement of government in safety and health inspection, for an independent role on the part of science, and for continuous development of opinions about standards for healthy and safe nutrition involving all sectors of society. Such clarity creates certainty and trust as to those products that can legitimately and validly maintain health and performance claims. People have a right to functional food. This is the right of access, which I discussed earlier in chapter 5.

We now proceed to the second set of problems, concerning the sociocultural meaning of food. In my opinion, this also involves a universal aspect. Every person, and every society, benefits from people being able to associate with each other in informal relationships; respect for other people in fact implies respect for the networks to which they belong. I have shown that the social dimension of food

means that it contributes to the formal and informal contacts in societies. If a society wishes to reproduce itself, then both are needed. Food is an essential element and differs in this from other commodities, such as cars and computers.

If functional food were to become commonplace, than this could lead to radical individualization, far more radical than we ever dreamed of. It would mean that meals would ultimately totally disappear, and that every person would only eat what is good for his or her personal health, which, according to the current insights of the health and food sciences, differs for each individual. Our genetic profile then determines what we eat, rather than the cultural or personal philosophy network that we belong to.

To counter this specter, the deliberative perspective holds that functional food should only be part of a broad range of food styles, next to other food repertoires. The different food styles should each compete for adherents in a peaceful way, and consumers must be able to step in or out whenever they wish. Food becomes the stake of a peaceful argument among philosophies, such as between vegetarians and non-vegetarians, health freaks and exquisite food devotees, fast-food scroungers and international cuisine enthusiasts. Functional food belongs to a certain food style. Respect for different food styles is essential for peaceful coexistence.

Governments should therefore facilitate the different food styles in an impartial way, and not just functional food. It also implies that individual persons must be given the opportunity to contribute freely to the shaping of food styles and to move from one style to another. This necessitates closure of the gap between producers and consumers, which now clearly exists in the food system, so that consumers obtain insight into the possibilities and limitations of food styles (see chapter 10).

One of the implications of this reasoning is that there must be a clear distinction between food and medicine, for food is always consumed in a sociocultural context, and it is good to maintain that context. A second implication is that a new field emerges between food and medicine, where food scientists acquire responsibilities that border on those of the medical sciences. The daily practice of food scientists, and, more broadly, of everyone who is involved in nutrition, should be better aligned to this. I will come back to this in the next section, for it plays even more in nutrigenomics.

As long as functional food is part of a specific food style and has many adherents and also many investors, it deserves support just like any other food style such as organic food or fast-food. But functional food may not be prescribed by government orders, and the distinction between food and drugs must remain intact. The different food styles must coexist, as an expression of the different underlying philosophies on life. At the same time, they must compete with each other in a peaceful way and contribute to the public debate, for example about the general guidelines for safe and healthy nutrition that are set and monitored by government and that apply to everyone. This peaceful competition must take place within the framework of the rights to access, exit, and voice.

Functional food claims that it prevents or reduces health risks imply far-reaching long-term consequences. Whoever makes such claims takes on a heavy responsibility. After all, the claims may be incorrect, or premature, or linked to all sorts of adverse effects. Expressing such claims must therefore be done carefully;

this is not a question of blind trust. Nutritionists frequently think differently about this. They often believe that they have a mandate on claims, as long as there is trust. German, for example, claims:

“[that] functional food can only be successful when the consumer trusts the scientific claims. The issue here is whether trust arises from the awareness of the consumer of the nutritional value, or from a regulated system of health claims on which this value is based.” (German et al. 1999, p. 496)

In my opinion, this is not an option: the trust that consumers have in the food system and in the validity of risk-reduction claims are intrinsically tied to social procedures that are transparent and that enable the parties involved to account for their actions. We must therefore look for institutions that force people who have such new responsibilities to account to the general public. This requires of course that consumers become more involved in the food system. Only in that way can the right to access, exit, and voice be realized.

The argument that is often heard, that functional food only serves to counteract an unwise and unhealthy lifestyle, thus makes no sense. Individual persons are entitled to shape their own culture autonomously, which implies that such value judgements are inappropriate. Promotion and support of content-related views about nutrition or food styles thus has nothing to do with the purported excellence or correctness of those views and styles. On the contrary, many people may consider such views to be incorrect.

Only when these views go counter to generally shared and consensual views about health and safety, that have come forth from a moral discourse, can they no longer be tolerated. The moral aspect always takes precedence above the ethical, regardless of how moral the ethical may be colored. If the moral aspect is not violated, and the demands of safety, health, and acceptability of production processes are met, then a content-related view is just as much entitled to be heard and to be allowed to contribute to the development of a local or international consensus that is ultimately reflected in law.

8.4 *Genomics and nutrigenomics*

While functional food relates to end products and foodstuffs, genomics and nutrigenomics go much further. These disciplines involve the study and regulation of processes that both precede and follow from functional food. Specifically, they involve the genetic composition and the function of food products, as well as the genetic activity in the body of the person who consumes such food. Genomics focuses on the functional status of genes, proteins, and metabolites. The long-term effects of food and, indirectly, of lifestyle elements are extremely important for genetic activities, since they can ultimately activate or de-activate these. Genetic activity varies by body tissue and is dependent on circumstances (Brudnak, 2001). For example, to prevent obesity, we wish to know the genetic profile and the protein

basis for the storage and release of fat in tissue. Genes thus interact, they compensate each other, and proteins interact in the process.

In genomics and nutrigenomics, there is no longer a sharp distinction between food and drugs; instead there is a gray zone between these two product categories. Food gets the properties of medicines and determines what medication is necessary; medicines become food or at least impact the intake of foods. This new gray zone, where health care and nutrition meet, is the battlefield of new ethical problems that call for constructive and new solutions. New moral ideas are necessary, since the old ideas no longer suffice. In the land of genomics and nutrigenomics, everything turns around individual autonomy, individual permission, equal access to medical aid, equal opportunity, common heritage, what we must accept in life and what can be changed. In short, it deals with the quality of life in general.

Personal freedom of choice and informed consent are key words in bio-ethics. In medical ethics, these are key concepts in the interaction between patient and doctor. In nutrition ethics, they are used for regulatory practices (for example labeling) related to risk-involving nutrition, such as genetically modified organisms. But also consumer sovereignty is used here as a central concept. Just like in the medical world, technological developments in the world of nutrition lead to new socially practical developments and new ethical concepts. The focus on personal choices and decisions and the neglect of collective values lead to a decline of ethical input.

Four trends

Four significant trends are visible. Firstly, medical and nutritional science change from curative sciences into sciences that focus on risk reduction and improvement of life (with far-reaching consequences for future generations). Secondly, these sciences have a personalizing effect, since they produce a personally customized package of medicines and food products. Thirdly, they lead to new risks and new uncertainties, especially in the long term in connection with the relationships between genes and nutrition. Lastly, they produce a tremendous volume of information (such as bio-informatics) that make the old ways of dealing with information hardly effective anymore.

The improvement claim

Genomics and, related thereto, functional food lead to a shift from a balanced diet for everyone to optimal nutrition that is tailored to the individual person. As with medicines, the focus no longer lies on physical

needs but on a healthy and good life. The central concept is the improvement of functions in terms of well-being, rather than combating illness. This is clear from the definition in section 8.3 of functional food given by ILSI Europe (1999). Roberfroid, (2002, p. 140) states:

“The optimization of food is aimed at maximizing the physiological and psychological functions of every person through food, thereby ensuring well-being as well as health, but also, and at the same time, a minimization of the risk of disorders during the course of life.”

The optimization through food aimed at specific functions is expressed in the form of an improvement claim, namely the claim that this food element does more than just promote normal functions. Roberfroid once more:

“If such an effect, which is thus more than what can be expected from the established role of a diet, involves a specific function or a biological activity without directly referring to a special disorder or pathological process, then the claim will be made for an enhanced function.” (p. 141)

This aspect calls for a long-term perspective on the part of both producers and consumers, both in nutritional science and in medical science (Hortman et al., 1999). The bio-active components that are integrated in food products will be consumed during many years. That is why nutrition experts plead for greater participation on the part of consumers in the design of these food products (Dekker et al., 2000).

Individualizing effects of genomics

Food scientists and food journalists alike signal individualizing effects of genomics. The objective of nutrigenomics is to predict the interaction between food products, especially micronutrients, and individuals with their personal, unique, individual, and molecular genetic profiles. B. van Ommen, a leading nutrition scientist at the Dutch science institute TNO, wrote an article in *Natuur en Techniek* entitled “Every eater his own dish” (October 2001, pp. 24-28). The well-known Maastricht nutrition scientist Saris (2002, p. 31) wrote under the heading “Nutrition advice based on DNA chart”:

“This DNA chart will enable the owner to tell which food habits will be more or less risky [for example] because they increase the chance of coronary heart disease. By means of personalized DNA charts it will be possible to determine much more specifically what a person is sensitive to.”

Muller, recently appointed as professor in Nutrition and Nutrigenomics in Wageningen, stated:

“We can use this information to identify persons who, because of their hereditary disposition, would benefit from specific nutritional patterns. In due time it can lead to the ability to identify high-risk groups among the population and to the development of functional food products for those risk groups.” (M. Muller, in *Voedingsmagazine* 4, 2001, p. 22)

Natuur en techniek devoted its September 2001 issue to genomics under the title “Every patient his own pill”. The title of the leading article by J. van den Broek was even more generic: “Everyone his own pill” (p. 5). Elsewhere in the magazine, Van den Broek stated:

“Meanwhile genetics has taught us that no two persons are the same. The more we come to know about a person’s ‘genetic fingerprint’, the more specific the medication that a doctor can prescribe.” (p. 9)

Dr. Nancy Foog-Johnson, director of *Life Sciences Alliance* in Pleasanton, California, described the following vision of the future in Reuters Health:

“At every visit, shoppers routinely hand a copy of their DNA sequence to the supermarket employee. Food production and supply can also be matched in a crop-to-fork way, with special products aimed at groups of consumers that share the same genetic profile.” (August 28, 2001)

This customizing approach means that individuals must be screened and sampled, that their information must be stored, and that personalized recipes must be prepared. This can obviously lead to increasing control. It also charges individual persons with new responsibilities toward their offspring, their partners, and their networks. This form of personalization is a paradox matter. On the one hand, it leads to personalization through the specification of drugs and food to individuals. On the other hand, it leads to tremendous collective consequences that apparently no one is responsible for (Korthals, 2001; Swierstra et al., 2002).

New risks

With regard to the high-tech food sector, there is no independent body that evaluates the claims associated with genomics and the related functional food products, and that investigates potential effects of overdoses and what problems may occur when various effects accumulate. Also there is no proper and independent quality control; every cowboy can introduce health products onto the market with unverified claims (cf. Thompson 1997). In the least harmful situation, the claims regarding, say, risk reduction of cardiovascular disease cannot be proven. The situation gets worse when the food product involved contributes to an overdose of phytochemicals that have a ceiling (such as vitamin A or D) or to a problem of accumulation of various effects in population groups (Brudnak, 2001).

The proliferation of unverified claims is exacerbated by the tremendous influence of private companies in this sector. But the production and sale of fully tested products is also not risk-free. It is possible that different versions of food products will appear on the market for different population groups, depending on the risk profile of each group. Different types of broccoli, rice, and orange juice will be offered in the stores. But how will those different flows of food products remain segregated? Who will be the judge to determine who is liable when people consume food products that may be harmful according to their DNA profile?

An excess of information

A fourth important feature of recent developments in medical and nutritional sciences is the great significance that is attached to bio-information, meaning facts and figures. When we know that some serious illness is likely to hit us, but without any cure being available, is such information then desirable, and must others (friends

or mortgage lenders) be informed? Consumers must continuously make their own assessment of the risks associated with their behavior, with the foods they consume, and with their genetic constitution, just like food experts (cf. Van Boekel 2001).

8.5 A deliberative and practical perspective – new practices and responsibilities

In the gray zone between health and nutrition, new tasks and new practices for the new health and nutritional sciences arise that are picked up and carried out by players involved and experts. These include scientists, technologists, designers, dieticians, and consultants, but also government officials and patient interest groups. It is wise to keep up to date about the new practices and tasks that emerge, and about the related standards, the forms of interaction, and the new responsibilities. After all, entirely new concepts of health and nutrition are growing, meaning that our position regarding food and drugs must also be totally renewed – the idea of a genetic fingerprint as menu card already indicates this.

Until this day, consumers choose their food on the basis of informal contacts, especially through parents, friends, and acquaintances. In recent times, jolly cooks who extol their arts and wares via the mass media have joined this crowd. If a genetic fingerprint is to determine this choice, then new tasks will arise for consultants, dieticians, druggists, supermarket managers, and more. All this will require regular updating of the genetic profile and constantly matching this with the nutritional recommendations, even if only because advances in scientific insight will point out new links that can be relevant for future food choices.

The key to a fruitful approach of this development is that consumers and producers together create cooperative networks. The joint creation of technological and normative developments is then practiced in the six links of the nutrigenomic food chain. This chain looks roughly like this:

- The scientific practice of molecular biological analysis and testing of links between genes and functions.
- The scientific (epidemiological) practice of the identification of groups that generally have the same profiles.
- The technical and scientific practice of the production of drugs and food products on the basis thereof: crop-to-fork, nutritional-science, or design-science work.
- The practice of nutrition intermediaries (family doctors, druggists, dieticians, etc.) that offer these to consumers and patients.
- The practice of supermarkets.
- Practices related to post-marketing monitoring: safety standards, implementation, and control.

To the extent that responsibilities and the rights to access, exit, and voice are regulated in these practices, this is often incoherent since the individual practices are not aligned to each other. (Family doctors, for example, are expected to give dietary

advice, while they hardly equipped for that.) Most of the practices do not have codes of conduct. The following measures, listed in sequence of increasing importance, can contribute toward clear responsibilities and the institutionalization of the right to equal access and to voice:

- Openness and transparency regarding products;
- Good reporting;
- Clearly documentation of responsibilities;
- Internal quality systems, monitored by internal control units;
- Independent external audits of procedures and information flows (gene banks!);
- Externally standards for quality systems;
- Possibilities of appeal;
- Forms of regular forecasting and technology assessment.

All these measures should be covered by a system of checks and balances. There should be a proper split of legislative (standard-setting), auditing, and executive bodies to prevent conflicts of interest from arising (Keulartz et al., 2002). The various professional groups should set up ethical codes of conduct and good practice guidelines, in coordination with user groups. Future providers of gene tests (drugstores, fitness clubs, or supermarkets?) should be allowed to do this only on the basis of proper and objective rules. The professional education programs should also attend to in-depth social interaction between medicine, the food sciences, and consumers/patients.

In a totally new way, genomics and nutrigenomics highlight the issue of the relationship between experts and the general public; new relationships and forms of interaction arise between professionals and consumers/patients. The role of experts in identifying high-risk groups, in screening, processing, and diagnosis, in therapies and dietary advice, implies entirely new ethical tasks and responsibilities. Specialized scientists who collect and interpret data about bodies must also be able to understand the interests and views of non-experts. They must learn to communicate with the general public – and look far beyond their specialization.

8.6 How shall we feed ourselves in a technological culture?

The key ethical question that high-tech food and nutrigenomics forces us to answer is how to live in a technological society. This is a question into the value and meaning of nutrition and food. Consumers are not bags that you can stuff with food; consumers purchase food products and prepare these within the context of their social network. And they insist that production processes meet specific standards – at least a large minority does this. High-tech nutrition, based on genomics and nutrigenomics, can respond well to specific consumer wishes, but at the same time it can have far-reaching collective implications.

The consumption of certain food products can lead to major changes in the hereditary basis of one's offspring. Eating on the basis of our genetic fingerprint

means that we want to maintain certain aspects of our hereditary basis and others not. This cannot be a strictly personal decision, because such a decision affects many other people as well. For that reason, this technology must be embedded in a collective rather than just an individual context, in accountability forums and other contexts that are more or less public. This does not require a collective will or collective approval, because collectives cannot choose as single persons. Collectives cannot vote, act, or choose; all attempts to have collectives vote, act, or choose are disguised forms of the votes, actions, or choices of dominant individuals. But collective responsibility for personal choice is, in an ethical sense, unavoidable.

8.7 Conclusion – Does food technology mean good living?

What does scientific production, cooking, and eating bring us? Is all industrialization and scientification by definition a disaster for good nutrition, as diverse authors such as Kneen, Fox and Fernandez-Armesto assert? We do not even need to look at the awful situation in the fast-food sector (Schlosser 2000) to become depressed. The long history of the production and processing of food teaches us, however, that it is neither a question of blindly following the course of technology, nor a question of rejecting technology in an offhand and uninvolved way. Unfortunately, it seems as if we keep asking nutritional science the wrong question. We keep asking an overly simplified question: will technology make us happy? But that is not the right question, for technological innovations do not lead to personal happiness, regardless of the sector.

Happiness is an oversimplistic category: it is better to be unhappy like Socrates than happy like a stupid pig. Knowledge and insight into our personal structures and those of our surroundings is a major good, even if we keep getting confronted with nearly impossible dilemmas and with disillusion. What matters is: trying out one thing or another, the relative happiness that it brings, rather than a single thing that supposedly gives instant happiness. With nutrition it is the same way. Nutrition keeps calling up associations with the natural, simple, and uncomplicated action of picking an apple and eating it. That situation exists, but the other situation, which is more complicated, exists as well, and to a much greater extent than most of us realize. Processed food can be healthier, and as we get older our need for special food grows. Moreover, as the risk of being faced by a critical illness increases, our nutrition must be adjusted. A long life is not always better, but dying young is far from what we want. According to Flaubert's *Madame Bovary*, a good set of teeth is one of the most valuable achievements of civilization. Why? Because it allows us to continue to enjoy eating comfortably until the end of our – hopefully happy – years.

Leading a good life with high-tech food implies certain procedural and content-related aspects. Both the procedural rights to voice, access, and exit and the normative values of living and working in a social context require a collectively impregnated individual agreement, not a collective agreement. Individual agreement and participation must be the core of the various practices in the demand-oriented food chains that provide high-quality, scientifically warranted food products. The embedment of high-tech nutritional practices in the social interactions of consumers

means that health food is recognized as one food style among many, one that participates within the peaceful coexistence of multiple food styles. The genetic passport may not become the sole recipe.

CHAPTER 9

GLOBALIZATION OF THE FOOD PRODUCTION SYSTEM

Enjoyments of globalized food

Famine, Malnutrition, Genetic Modification, Free Trade, and Gas Mask are chaotically walking around in the kitchen, to fix a common meal, but Genetic Modification hates Gas Mask and constantly tries to put spliced corn in Gas Mask's cooking pot. Famine complains that because of her beef with Genetic Modification, she doesn't get anything to eat. Free Trade spoils the broth with a glut of precautionary measures. "All these chocolate soldiers!" Gas Mask calls out. When dinner is finally ready, they pose for a picture. The guests cry out: what a beef cake!

People demonstrate in the streets of Seattle and Genoa, shouting slogans against a uniform world where everything is standardized. Globalization is portrayed as a uniform monster that has the same face everywhere, just like McDonald's restaurants around the globe. The thinkers of the Age of Enlightenment in the eighteenth century indeed predicted that the world of reason would look the same everywhere – but what has become of it? Is globalization an orderly, uniform, and systematic process? Is McDonald's in Beijing the same as in Amsterdam? Has it not instead grown into a chaotic process, with developments that are far from simultaneous and full of interruptions, sudden accelerations, and slowdowns?

In his *Communist Manifesto* (1848), Karl Marx happily determined that the overall impact of western capitalism involves standardization and uniformity: "In place of the old local and national seclusion and self-sufficiency, we have interaction in every direction, universal interdependence of nations. (...) National onesidedness and narrowmindedness become more and more impossible."

Today, a century and a half later, the scene is different. Local, regional, and national differences have not decreased but have taken a new form. Although boundaries are fading, governments have not disappeared. New governments have come about – governments that transgress nations. Together with the old national governments, they have played a key role in the creation of new markets for food production. At the same time, various modernization processes have been started, based upon different normative principles, sometimes to be torn down again, as happened in fascist Germany and Japan and in communist Russia.

Nonetheless, a global public forum has grown, owing in part to the rapid development of mass communication. The norms and values related to nutrition and agriculture, however, are still just as diverse, maybe more diverse than ever, despite all efforts to standardize. Politics and ethics have turned out to be much more

important than Marx ever thought, while he never even considered the problems of the environment and of farmers in developing countries – and the directly related issue of world hunger.

In this chapter I will firstly discuss a number of characteristics of phenomena that are regularly associated with globalization. Next I will present the main controversies and the responses presented by theoreticians. In my opinion, their starting points – more market or more government intervention – are incorrect, especially when it comes to nutrition. I will therefore argue for a combination of market and state, in conjunction with civil institutions and organizations, such as public forums, non-government organizations (NGOs), and mass media. This constellation, in interaction with the many sorts of technological developments, offers in my view better prospects for a solution of the great global disgrace, that one billion people suffer from hunger and malnutrition every day. Against this backdrop, I will discuss the worldwide food problem, ending this chapter with the role that international government and non-government organizations play (or can play) in this.

9.1 Globalization and its discontents

The literature about globalization presents four main characteristics (Held and Thompson 1999). Firstly, national boundaries fade as governments make agreements that apply to all countries in common. For the national governments this means that their legitimacy and credibility slowly crumble away. Not The Hague but Brussels decides.

Secondly, leading on from the above, both high and low political or quasi-political bodies gain greater powers of decision. However, these bodies frequently have problems with their legitimacy and barely succeed in actually exercising their power. There is not a simple office or address that you can go to with a problem about globalization. Such international bodies are structurally lacking in democratic control and corrective processes.

Thirdly, there is a trend, especially in the business world and among other players on the international scene such as research bodies and NGOs, to establish alliances without hierarchic structures. Both within and among these organizations, all sorts of networks arise, leading to numerous new cooperative ventures between market players, governments, and semi-political groups such as environmental activists and consumer associations (Brunkhorst and Kettner 2000). These networks are not structured in any uniform way, whether symmetrical or asymmetrical. Instead, they intersect in many ways and, depending on their tasks and functions, differ greatly in impact. Also, while these networks are flexible, they have little stability and can quickly dissolve again. This makes the future of networks and of globalization processes difficult to predict. Hardly any past and present trends can be identified that will still definitely apply in the future. So there is asymmetry between present and future.

Globalization is characterized in the fourth place by mobility of goods, capital, knowledge, and people. The daily information flow in newspapers and other mass media generally relates to these phenomena. The food industry is an international sector par excellence, distributing goods and thus people and capital across the globe. Large enterprises such as Nestlé, Danone, Kellogg, Kraft Foods, and Unilever are located throughout the world. But also supermarket chains such as Ahold and Carrefour have gone international, just like, closer to home, Dutch farmers.

The production of food for the world market is a challenge with far-reaching consequences that were recognized in the Netherlands directly after World War II. As Sicco Mansholt (1908-2000), Dutch minister of agriculture (1945-1958), European Commissioner for Agriculture (1958-1975) and advocate of rationalization, wrote in 1947: "If we do not want the agricultural sector to be permanently dependent on support, then farmers will need to be able to produce for the world market". His conclusion clearly shows the interaction between global and local processes: "It will thus be necessary to carry out reallocation projects on a large scale."

Critics of globalization

The above four characteristics can also be used to categorize the principal theories and points of criticism related to globalization.

The criticism regarding the first characteristic points at the lack of interest among citizens/consumers in national politics, alternating with sudden outbursts of distrust directed at politics in general and the food sector in particular. There seems to be little faith in the political and managerial experts in the food sector. Relatively minor scandals, in conjunction with the impotent line-up between government and the food sector, can thus lead to a sudden breach of confidence (Phillips and Wolfe, 2001). While scandals are an almost daily occurrence in the medical world, these are not experienced as crises that must be immediately solved by government, as this sector is much more loosely tied to government and public policy.

The political unease reflected in the second characteristic is likely to be the greatest of all. International organizations are seen as aliens from a distant world, making decisions about our daily lives that are absolutely incomprehensible, without even considering the impossibility of contact with these foreign creatures. International organizations tend to exclude rather than embrace people. Many people are therefore extremely critical of these organizations and plead for their abolition. As an alternative they propose the creation of small and mostly local social affiliations.

This criticism at times resembles a revival of anarchist ideals of local self-sufficient communities. Bookchin, for example, says the following about the ecological society:

"The classical idea of the rational citizen, linked with other members of his or her community in a personal relationship based on discourse, was to gain economic support and to permeate every aspect of public life. It is not a pure fantasy to imagine that an ecological society will ultimately consist of communities of limited size, each being a community of small households

or private homes that are fully attuned to the natural ecosystem within which they are placed.” (Bookchin 1990, pp. 194-195)

The third characteristic, the creation of networks, evokes the danger of an obscure mix of uncontrollable alliances, where the most powerful players (usually the business community) force their will upon the rest from behind ethical and political smoke screens. The critics also point to the tremendous acceleration of social life and to the uncertainties in the long term. This can lead to erosion (and ultimately breakdown) of relationships and structures based on trust, which take time and patience to build up (Brunkhorst and Kettner 2000). In agriculture, the pace is seldom full speed, since complexity, seasonal factors, and growth processes of plants and animals play a major role (chapter 1).

The fourth characteristic of globalization (and, to a lesser extent, the third characteristic) implies, according to critics, that all inherent differences between countries and cultures will be wiped out. They indict globalization because it implies uniformity and standardization, and because it sees all local peculiarities only as impediments that must be swept out of the way. Local customs, production methods, and consumption patterns disappear (cf. Goldsmith and Mander, 2001; Gray, 1999). According to Reijnders (1997), a great variety in cultivation practices existed in the Netherlands in the eighteenth century, as well as in crops, vegetables, and fruit. This variety has disappeared as a result of the large-scale nature of agriculture and the uniformity in process. Scott (1998) speaks in this context of a great international modernization offensive that seeks to do away with local differences:

“It is not surprising that scientific agriculture tends to have a preference for the creation of large-scale artificial practices and environments – irrigation schemes, large and uniform fields, the application of chemical fertilizers, greenhouses, pesticides – all of which make homogeneity and control of nature possible, within which an ideal experimental condition for this type of agriculture can be realized.” (Scott 1998, p. 303)

Theories about globalization

It is interesting to see to what extent present-day theories about globalization meet these points of criticism. There are different types of theories, and I can only present here a schematic classification according to the society model presented in chapter 5, which is based on the tripartite structure of market, government, and civil society (see also Low and Gleeson, 1999). Pursuant to this, there are firstly the theories of liberal economics, which take the free market as their central theme. According to this view, free markets are the optimal management instruments and should therefore be allowed to operate free from government intervention. The thinking is that markets do not require any steering, so any form of organization of the economy is rejected as that would only lead to protectionism and monopolistic trade. That in turn would impede the benefits of the markets – continuous renewal and low cost production – from being achieved.

The basis of this view is utilitarianism (see chapter 6), which regards usefulness and welfare as the results of the fulfillment of personal preferences. Only personal

rights that regulate the protection of personal freedoms should determine the markets. We are not talking here of the right of participation or the right of individuals to develop themselves. According to the concept of comparative advantage, individuals, companies, and countries should produce that which is most efficient for them and involves the lowest cost, so that they can gain a position in the world market. The capacity to compete is foremost.

In the next section I will go into further detail about this central assumption, that the market is best equipped to regulate the production process. For now I just wish to point out that the direct problems of the implementation of this model are not considered at all. These include the ever-widening gap between rich and poor, the enormity of environmental problems, and the great political tensions that arise as a result. This criticism is deadly enough of itself. Even if the model were correct in theory (which it is not, see 10.2), in practice it leads to awesome political problems.

A second type of theory about globalization is the socialist type, focused on government intervention and generally involving sustainability ideals. Just like in the nineteenth century, government is central in these theories, which today means the large international government bodies. Proposals are submitted for direct elections of international organizations, such as the United Nations, the World Trade Organization (WTO), the World Health Organization (WHO), and the Food and Agriculture Organization (FAO). In this context, David Held (1996) argues for a sort of dual citizenship, where citizens can choose both their national government and their international governments. Each of the two must hold back the unrestrained expansion of large international corporations. Held also pleads for transfer of the monopoly over violence control from national states to these international governments.

The culmination of this development is a world government. The theories of ecological modernization and risk society fit within this concept, as they strongly emphasize the institutional conditions for economic production that focuses on sustainability (Beck, 1998). Here again, the practical problems, such as cumbersome government bureaucracy, unbridled nepotism, and a culture of secret deals, indicate that this model will not work.

The third type of globalization theory is based on the complex interaction between markets, governments, and civil societies, in which the rise of international, culturally differentiated public forums plays a major role. The theories of Rawls (1999) and Habermas present leads in this direction, but they still place too much emphasis on national governments (peoples, in Rawls), do not seriously consider the increasing fluidity of national boundaries, and regard the market too much as a segregated structuring system that is not subject to sociocultural influences. When it comes to nutrition, both Rawls and Habermas adhere to the concept of national self-sufficiency, leading to undue emphasis on national sovereignty. Many European countries are in fact no longer self-supporting, which I do not consider to be necessary anyway. A different issue is whether agriculture should completely disappear from a country such as the Netherlands. For my negative answer to this question, see chapter 11.

My second argument with Habermas is that he denies the role of cultural and normative factors in markets. As Whitley (1999) convincingly shows, there are

different types of capitalism and different market and business cultures. Business enterprises reflect the culture where they originate. There are American, German, British, Japanese, and Korean versions of capitalism. There is not a single set of standards for capital, not a uniform matrix that can be laid across every economic activity. The other side of the coin is that companies more or less adapt themselves to the social and cultural circumstances of the country in which they operate. Even McDonald's offers a different range of foods in France from that in the United States.

In the next section I will go into further detail on the relationship between markets, market players, and sociocultural factors. But first I will respond to the critics of globalization from this tripartite model.

Criticizing the critics

Given the growing dependencies among regions, continents, and nations, it would seem that the phenomena that I have combined here under the first characteristic are irreversible. A certain reduction of the power of national governments, comparable to the lessening of power of cities and provinces in the seventeenth and eighteenth centuries, is inevitable. At the same time, national governments are fighting this trend tooth and nail; many citizens and governments are still not used to this feature. Also political parties, which until now mainly act at the national level, are having great difficulty dissociating themselves from the various functions that they hold in relation to national politics. In Europe, for example, there are still no European-wide political parties that we can join.

The second and fourth characteristics of globalization are encountering much greater criticism. The new international government bodies and international corporations are being criticized from all sides as mammoth tanks that steamroller everything that is different and small. Michael Hardt and Antonio Negri, in their otherwise muddled critique of globalization (*Empire*, 2000), rightly point out that the worldwide spread of networks has benefits for individuals and groups, for example through the ubiquitous means of telecommunication. The globalization of local cuisine similarly is a great development for active cooks and food lovers. For small producers this can also mean new opportunities. For example, producers of African grasshopper food will be able to export their goods to people on other continents who appreciate these delicacies, as already happens with snake food.

Globalization therefore does not need to imply great size. It can also mean opportunities for small companies as they find a niche in specific markets. However, I am not prepared to join the applause for local small-scale business, since that presents too much opportunity for social limitation and control of diverging individuals. What matters is the proper mix of ethically responsible and global. Large size does not have to imply something negative, provided that ethical standards of decent and respectful contact with animals and humans are met.

In the case of cattle farming (chapter 7) I have shown that large size can sometimes have ethical advantages. International organizations are necessary because of the international character of the problems that we are confronted with (environmental problems, animal diseases, other health-related problems). It is

therefore better to learn to deal with such organizations rather than to reject them outright.

According to the tripartite society model, the core of the objections against this aspect of globalization relates to the limited possibilities for participation by citizens/consumers and the lack of good international public forums, so that there are no proper checks and balances to restrain the large players and organizations. It must be possible to be heard by the large international government bodies without first taking to the streets, without throwing stones or, worse, fire extinguishers (as in Genoa in 2001) through windows.

At this moment there is not a managerial path that citizens and consumers can take, that runs parallel to the currently complicated delegations of national governments, for that requires more than an e-mail address on a colorful website. It is essential that consumer concerns are heard that are presently not presented at all, or only inadequately, by the national delegates. Greater sensitivity must be created for local circumstances. The right of voice must be granted, including in these institutional bodies.

Viewed through the filter of the tripartite society model introduced here, the third point of criticism of globalization means that a proper balance has not yet been found in the networks between political participation and the discussion of consumer concerns, such as respect for living beings and biodiversity, control over end products that reflect such respect, and the possibility for new markets.

9.2 Trading in food – risks and culture

Although international trade in food products has existed since ages – it stood at the cradle of the great exploratory voyages of the fifteenth, sixteenth, and seventeenth centuries – the organizational and theoretical problems that it presents have only explicitly come to the forefront within the world community during the last several decades. This is probably because international trade was monopolized by a single nation for considerable time: by Spain during the 1500s, by the Netherlands during part of the 1600s, by England during the 1700s and 1800s, and by the United States in the 1900s. During all that time, trade problems could ultimately be solved by a show of strength.

As indicated earlier, the original thought behind the World Trade Organization is that all ecological and normative considerations by definition constitute impediments to free trade. Even labeling of certain foods is viewed that way. In practice, the situation is not that serious. Worldwide agreements are, for example, in the make for organic foods (in general, those produced without chemical additives). The WTO treaty contains a clause that appears to provide for normative considerations (article XX speaks about protection of public health and public morals), but until now only limited use has been made of this. (See the excellent book by Marsha A. Echols, *Food Safety and the WTO. The Interplay of Culture, Science and Technology*, 2001).

It is also not true that the WTO may only consider end products and would not be allowed to set criteria for production processes as those affect human rights,

environmental demands, or biodiversity. After all, there is the famous ruling about the shrimp and the sea turtle, involving the method of catching shrimp, whereby also sea turtles, which appear on the list of endangered species, are killed. This ruling made clear that not only end products but also production processes must meet international standards of biodiversity and sustainability (www.wto.org). The method whereby these standards come about, however, is based entirely on scientific considerations, which are considered free from value judgements.

This free market approach involves two central problems. Firstly, it ignores the cultural embodiment of nutrition and related production processes, and thus the pluralism of cultures and food styles. Secondly, it leans excessively on science in its assessment and management of risks that the global trade in food products involves. In this world, risks related to agriculture and food simply do not stop at national borders. Chemical pesticides that are used in Norwegian fjords to breed salmon can ultimately end up as lethal residues in the Bay of Biscay or, even farther south, along the Canary Islands.

Norms create markets

I want to tackle the first problem by showing that markets always require assimilation in a social and cultural context, and that this assimilation can be narrowed further by governments without competition necessarily being affected and efficiency ultimately being destroyed. Markets are not free when there are no restrictions at all; they are free, depending on the type of restrictions. Rules that prohibit something in markets do prohibit certain possibilities, but on the other hand they provide room for new possibilities. In that sense, all restrictions of market behavior have two aspects: they prohibit certain behavior, but they also stimulate certain behavior.

The prohibition to produce unsafe food, for example, limits certain market players, but firstly it presents others – in this case consumers – the chance at a longer life. Secondly, it clearly presents opportunities for producers of safe food. The new rules thus in fact create new groups of producers (and consumers) and new interests. Rules prohibit but also give possibilities; both sides always apply. The key question is therefore not whether there will be rules at all, but *which* rules. And especially: which groups benefit from the new rules, and which groups will suffer from them? (I lean here on the interesting book by Bromley from 1989, *Economic Interests and Institutions. The Conceptual Foundations of Public Policy*.)

Government rules that regulate markets thus define the degree of freedom for some groups and limit that of other groups. According to Bromley, there is a overriding set of norms, conventions, rules, practices, and laws that shape or define the choices of individuals and groups in an economy (Bromley, 1989, p. 141). Pursuing this line of thought, Bromley also considers that markets trade not only in goods, but also in institutional rules, standards, and other regulating devices. The rules imply standards for goods and services; they are thus defined by the societal institutions that operate in markets.

With this idea in mind, it is appropriate that industrial enterprises are spurred to conduct their operations in a socially responsible way. Corporate social responsibility is nothing other than policy development that explicitly considers

social issues that are already implicitly regulated by the market; it is not a requirement that is imposed from outside. The social neutrality that is advocated by those who are opposed to corporate social responsibility, since that would go against the logic of a market that is free from values, is impossible to maintain in daily market practice.

Large enterprises that consider social responsibilities try to reflect human rights, labor union rights, environmental requirements, and other consumer concerns in their business strategy – which is not in any way counter to the logic of the market. Companies such as Starbuck (coffee), Shell, and Unilever negotiate with NGOs about their ethical codes. (One might ask what the impact of citizens/consumers is on such NGOs.) An altogether different story is the control over the commitments that are made, so that consumers can be sure that the commitments are not idle promises. In line with what was said in chapter 6 on this subject, strong markets need strong control institutions (see Gartner 2002; Brunkhorst and Kettner 2000), with active involvement by consumer groups and other stakeholders.

Risks and risk perceptions

Whether the subject is hormones in meat, nonpasteurized cheese, or genetically modified food, in all these situations the international trade in food is at issue. Some people want to ban the trade in such products, while others view this as an attempt to restrict free trade. It is interesting to see that, also in the definition and perception of risks, cultural differences are evident.

Americans refuse to import nonpasteurized cheese since they believe that there is scientific proof that it leads to health problems. Europeans, on the other hand, eat farmer's cheese and French and Italian cheese every day, even deriving national pride from this. In the case of hormone meat and genetically modified food, the situation is different. Americans claim scientific evidence that it is safe. Europeans (and others) say that the risks are so great that it may only be imported under very stringent conditions. The two safety regimes are linked to quite different, unique forms of food production and evaluation systems, each involving enormous economic interests. No wonder that emotions flare up.

Consensus is generally reached at the national level regarding the type of risk a particular food item involves. At international level this turns out to be far more difficult. The bone of contention is the definition of food safety. Pursuant to what was stated earlier about the cultural significance of food, it is no surprise that this is not a subject to be resolved strictly on the basis of scientific evidence.

The international organizations are poorly equipped to deal with cultural differences in the perception of risks. The SPS agreement, which is the foundation of the World Trade Organization, only allows for scientific considerations, not for differences in culture. Echols thus concludes:

“The SPS agreement reduces, if not to say eliminates, the possibility of a government to respond to cultural objections in the decision whether a danger of risk exists. This attempt by traders, trade experts, and scientists to regard food in isolation from its history has turned out to be quite

cumbersome, since many people adhere to cultural perceptions of food safety.” (Echols, 2001, pp. 148-149)

As became clear in the discussion of tests in connection with the safety of GM food (chapter 8), the controversy is not the same as a controversy between science and culture, because the sciences on both sides of the Atlantic differ with regard to their cultural backgrounds. In Europe, the EU introduced the precautionary principle some time ago, meaning that innovation is not acceptable as long as the consequences are difficult to estimate. The international business community, however, has not accepted this principle.

By now there is a tremendous volume of literature and research about risk and risk perception, which has made one thing quite clear: that cultural perceptions cannot be ignored. The central question, however, is to what extent those cultural perceptions should be considered. In other words, how far may and can these perceptions penetrate into the international decision-making process? May these perceptions take precedence over scientific evidence?

As to the first question, the Codex Alimentarius, which is the legislative code of the World Health Organization and the Food and Agricultural Organization that sets standards for safety and health in food, distinguishes three aspects of risk policy. The first is the purely scientific risk assessment, in which various epidemiological and sociocultural techniques are applied to determine the likelihood of a disaster. The second aspect is risk management, which must take measures when the risk assessment indeed concludes that risks can occur. The third aspect is risk communication, meaning the interaction with the general public about the potential risks and the activities of government to respond to these.

According to this threesome, the cultural aspects of risks may only play a role in the third aspect. In real life, the situation is obviously different, since cultural perceptions are already reflected in the choice of risks to be assessed. For example, with regard to GM food, the European Union only arranged for assessment of the risks to human health; the experts “forgot” to include the risks for the environment and the social risks (farmers in developing countries). Risk management also is imbued with cultural perceptions.

As I already indicated in chapter 5, safety and health standards, which operate as a searchlight for the identification and definition of risks, are impregnated by culture (are non-neutral), but these standards can nonetheless have an impartial character. The same applies to risk assessment and risk management. These aspects must likewise be subjected to procedures through which scientific reasoning and values can be linked in a meaningful way. It is essential in this context that consumers can make clear (basing themselves on the right to voice) which risks they consider worth being assessed and managed.

Another possible measure is that national governments are given more freedom of action, if necessary through the possibility to compensate. A key issue, however, is that nutrition involves cultural and social functions, which must be systematically included. Up to this point I can answer the second question above positively.

9.3 Poverty and world hunger

The three society models mentioned (government, market, and civil society) respond in different ways to one of the most pressing problems in the world: the lack of sufficient healthy and wholesome food for nearly one fifth of the world population. This is a problem that will only become more acute if nothing is done. The growth of the worldwide population implies that more food resources are necessary, in particular cereals and rice. The population increase leads to urbanization, which in turn means a reduction in total farm land, but also arable land turning into desert and such factors as nature preservation result in less space for agriculture. Many analysts believe that increasing welfare also leads to increasing meat consumption, which means an even greater need of land since meat production requires more land than the production of rice or cereals.

All these factors mean that agriculture must be intensified and food production increased, implying among other things, the use of modern technologies. But which technologies?

More of the same? Top-down strategies

The great western powers, many large industrial companies, but also well-intentioned and ethically inspired organizations and individuals tend to apply a top-down approach to this issue, with markets or governments taking a central position. This top-down approach looks roughly as follows. First of all, certain ethical principles are formulated, such as the right to food, but also the right to private property and the related free markets. Next, the conclusion is drawn that free markets are an important instrument for the growth of welfare, so that western technologies can be applied by companies of varying size. Farmers must adjust to this.

This large-scale approach leads to monocultures that are characterized by uniformity and concentration on a limited number of varieties, which, through the buildup of resistance, leads to great vulnerability to plant diseases and forms of abiotic stress. The farmers involved are not asked for their opinion, so that the projects can hardly count on motivated farmers, even though they are the ones who must do the work. Experts carry out laboratory experiments involving the improvement of crops and the relationship between crops and pesticides, rather than determining on location what the best combination is. Even field experiments are generally carried out by outside experts. They do not involve farmers experimenting in the field and thereby increasing their competence.

The intensification of agriculture involves a series of problems (Scott 1998; SAFE World). Firstly, it leads to serious ecosystem damage: to both the biodiversity of ecosystems and to the agrobiodiversity of the related farming ecosystems. Secondly, intensification can mean a threat to public health. Thirdly, intensification can result in a widening of the gap between farmers and large companies, since farmers are totally dependent on them for seed and other needs. Such companies often hold a monopoly position, so that they can simply dictate what farmers must buy.

The landscape is often damaged to an unacceptable degree, ending up as desolate, bare, monotonous plains, where people roam like lonesome nomads, without any bond with what their culture had built up in the past. A gap can also arise between producers and urban consumers, leading to a lessening or total disappearance of trust. Anyone familiar with *Dialektik der Aufklärung* (chapter 8) will not be surprised that nature sometimes bites back.

Principalist theories in ethics (see chapters 5 and 6) are solely concerned with the formulation of principles, such as the right to food. They view technology strictly as a means, without considering what ethical implications the technology has. For that reason they are powerless in the face of this sudden reversal from good intentions into bad consequences.

Monocultures, standardization, and uniformity of agricultural practices are closely linked to the focus on uniform ethical principles. Such principles can only forbid or approve a particular technology from the outside. They cannot get underneath the skin of the concrete technological needs and thereby help to make a reasoned choice in favor of one technology versus another. That is why I plead for a deliberative ethic that considers values and local practices of dealing with technologies.

Social measures, technology, or both?

The ambivalent success of western, large-scale farming technology, with its strict focus on production increase, has led many to pay sole attention to societal circumstances, such as distribution processes, the division of power, and the absence of free markets. Reference is often made in this context to the pioneering book by Sen, *Poverty and Famines. An Essay on Entitlement and Deprivation* (1991). The author points out in this book that famines do not result from lack of food but from a lack of rights of the hungry, so that they cannot obtain food. The complex message of Sen, however, is seldom picked up. He does not argue that technologies and production-stimulating resources are not needed, but that they must be assimilated in local contexts.

Of course, all sorts of measures can be taken with regard to the distribution of and access to farm products and foods. But that is not the only thing that needs to be done, for agriculture is a constant struggle against natural and unnatural enemies, such as biotic and abiotic stress. Based on the previous chapter we can say that the problem of intensification of agriculture is a problem of the assimilation of new farming technologies in various social and ecological contexts. The great variety of cultures and of values and norms must be explicitly considered in technological developments. This applies likewise to the enormous diversity of farming methods, crops (non-cultivated varieties) and nutrition types, as this provides an excellent starting point for further intensification of agriculture.

Richards (1985) notes in this context: "The great flexibility of intercropping lies in the possibilities that it offers for a large number of combinations of individual preferences and needs and of local and changing circumstances within a season and between seasons." (p. 213) This does not, however, imply that these local practices cannot be improved through scientific insights. Integrated pest management, for

example, is based on the interaction between bad (crop-eating) and good (bad-insects-eating) insects and crops.

For many local farming cultures, the attention for insects and their habitat is new. FAO has therefore set up projects, especially in Indonesia, where farmers experiment with different forms of organic pest control using insects. The complicated relationships between the growth conditions for good and those for bad insects is a totally new field of research and education by farmers for farmers (FAO, *Sustaining the Multiple Use of Agricultural Biodiversity*; www.fao.org).

Deliberative assimilation of technologies

From the viewpoint of well-intentioned individuals, the right to food implies an immediate call to help the hungry (Unger 2000; Shue 1986). But the social and cultural distance and the help offered stand in the way at times. As such it is altogether inadequate, sometimes even harmful, to apply only an abstract principle of social justice and to offer help to poor countries and people on the basis thereof.

Firstly, the cultural setting in which people live is altogether different. O'Neill (2000, esp. chapter 7) gives a good explanation why, from her contextual view of justice, universal principles cannot be applied universally: "Rights do not need to apply in the same way for everyone, provided that they apply for everyone in a specific way." (p. 140) The rights to voice and to access and exit can be implemented in different ways; there is not just one way to realize the right to food.

Secondly, the aid – usually a program involving western technology – is altogether inadequate and often applied incorrectly. As I have explained, farming and food technologies embody certain values; they are not random resources. For that reason, a deliberative approach aims at promoting the cultural assimilation of technological programs and at implementation of different scenarios with different technological programs. These may include integrated pest management, crop rotation, and genetic technologies (either as diagnosis techniques such as genomics, or as genetic modification of plants, or as a combination of both). Ethics thus contributes to the design of technologies, not as a set of commandments but as an adviser in making fundamental decisions.

9.4 International democratic government structures and public forums

Considering the international character of the burning issues in agriculture and nutrition, international organizations such as WHO, IMF, FAO, and the World Bank are indispensable. Also the international business community has a task here. A precondition is that the focus on a specific form of science and a specific form of technology must be given up in favor of a policy that considers the cultural assimilation of technologies and the possibilities of different technological approaches.

On the one hand, I am in favor of strong public international organizations, although I realize that my view goes counter to the growing trend to deregulate. Presently, the large public research institutes are receiving less funding. Since 1986, for example, the subsidies for the Consultative Group on International Agricultural

Research (CGIAR), which works strictly on behalf of the poorest countries, have been cut in half. On the other hand, these organizations must change their orientation in two respects: they need to offer more opportunity for external participation, and they need to pursue a multifaceted technology policy.

The first point implies that those directly involved, such as farmers, play a far more active role in the various projects, and that citizens/consumers are given a greater role in the design of general strategy. Since the link between democratic representation and the national state is weakening, the large public organizations must search for new ways for democratic representation that go beyond the national states. Until now, these transnational organizations work exclusively as supranational bodies consisting of delegates of national states, instead of as international organizations that operate at least to some extent without interference from the national states. They function because of the shortcomings and lack of power of national states, but they do this without incorporating the positive aspect of direct involvement with citizens/consumers in their own way at this higher level.

The street protests that accompany the conferences of international organizations are evidence that citizens/consumers do not have any clear and transparent influence.

This point applies as well for transnational corporations and political movements such as NGOs. They too must strive for more and better input by the general public. The three E's – economy, ecology, and ethics (the theme of the Twelfth World Food and Agribusiness Forum) – and the three P's – people, planet, and profits (the motto of Shell) – are still far from being in balance.

As to the overall picture of the global political scene, I do not consider it worthwhile to strive for some kind of world government, like Held promotes. Global food policy is already so complex and involves so many players that it would not make sense to step upward to an even higher body. Participation by consumers and citizens in the existing international agricultural and food organizations (WTO, WHO, FAO, Codex) would make more sense. In that way, a multifaceted food policy that reflects local concerns can get off the ground.

Global citizenship, which Negri and Hardt advocate (2000, p. 396), can also take shape in this way. It is essential in that context that global public forums are created, where individuals can discuss the pros and cons of the various technologies and ethical values. These can also serve as accountability forums, where politicians and corporations can demonstrate their commitment. For, if these considerations continue to be made in the backrooms of managers and high officials, then the chance of failure is great – just like the introduction of GMOs in Europe and the rest of the world has shown. For the time being, a negative assessment by the general public about the failure of a company or politician is a heavier penalty than the result of deliberations conducted by a feeble world government.

CHAPTER 10

CONSUMERS, ABUNDANCE, AND RESPONSIBILITY

The Tragic Story of the Double Life of Citizen-Consumer

Blue Beard Industry alternatively flogs poor Pig Sister and fattens it by injecting hormones; Coward Consumer, binging ham, stands next to the scenery but behaves as if he hasn't to do anything with this by looking away and whistling. Government Servant runs nervously from one side of the dark and stinking shed to the other screaming out regulations and lawlike formula. Pig Sister screams and screams for his Sister Anna. Finally, just when the pigs is on the brink of collapsing, Knight Citizen on her white horse appears, and with one mighty blow of her civilian courage pierces Blue Beard; the government servant suddenly realizes its legitimized task and fines the dead body, and Coward Consumer grudgingly delves into his moneybag. There he finds his mirror image: Knight Citizen. They embrace each other. The Happy End.

Foodland is populated by various well-known theater characters. They include the villain, who is personified by the intensive hog farmer. Then there is the pitiable victim, personified by the battery hen or the tied up sow. Lastly we have the hero, personified by the bourgeois citizen. The consumer in Foodland fulfills the role of a sheepish and woeful figure, who runs from one eating event to the next, constantly in search of the cheapest, the most, and the dullest, applying the motto: don't think or want to know while eating. *Dealing with ambivalence* (in dutch: Eating and not wanting to know) is the title of a publication of colleagues of mine, who express their indignation about the consumer, this brainless creature, which is permanently driven by guilt feelings looking for distancing devices, in a subdued tone. The citizen is then conjured out of a political heaven, who does want to know but does not want to eat – and who might be able to put everything right (Te Velde et al., 2001). In the sociology of consumption that has recent grown, the consumer is furthermore portrayed as a strictly emotional beast that staggers from the experience of one sensation to the next (Dagevos, 2002).

It is an enjoyable piece of theater, but the roles of consumer and citizen do not match reality and are also hardly useful as concepts. The empirical research that attempts to show the difference between citizen and consumer is not valid (and ethically, also not very kosher). And the conceptual apparatus that forms the basis of this empirical research is simply wrong. The gap between consumers and producers has all characters in Foodland in its grip, and sociology cannot afford to take an outsider's position by assigning the role of the bad guy to just one of the actors.

In this chapter I want to examine first of all what the social environment of the pitiable creature portrayed above looks like. Many treatises have been written about consumption and the consumer society, and I will present the main points here. It strikes me that all of these treatises are rather one-sided and do not take into account

that the gap between consumers and producers is structurally anchored in production, with fatal consequences for the food production system.

Next I will sketch the historical background of the dual concept of consumer versus citizen, and argue that the distinction is a conceptual one that does not exist in the real world. Following that, I will indicate the conceptual problems of the distinction. The core of the problem is that it is incorrectly assumed that buying behavior is an adequate expression of the priority preference of the consumer, while it is not realized that markets exist by the grace of institutional arrangements and social contexts.

Lastly, I will sketch the alternative of more or less politically involved citizen-consumer, who acts responsibly on the basis of the implications of food choices and respect for living beings involved. A precondition for the realization of such a consumer ethic of responsibility and respect is that government and the business community cooperate in this, close the gap between consumers and producers, and respond structurally to the wishes of consumers.

10.1 Consumption or consumer society

Herbert Marcuse, the most famous critical theoretician in the 1960s, was one of the first to refer to western societies as consumption societies, describing their structure in his book *One Dimensional Man* (1968; see Korthals, 1985). The consumption society, he says, must be viewed as a gigantic machine that completely determines every person, from the most menial laborer to the most influential director. Individuals do not have free will during school hours or at work, when they buy products, or when they use them during their free time. Consumption is an important means for the total absorption of the individual. The machine, driven by the dynamism of science and technology, keeps producing new products that have so much emotional, even quasi-sexual appeal that individuals, goaded by the mass media, simply have to buy them.

This vision is rather morbid, because there is no way of escape. It is really a mystery why Marcuse thinks that he can afford to be so critical. However, there is a way out after all, in the line of the apocalyptic, even Messianic thinking of Hegel: at the height of misery the abscess of consumption society breaks open, and all our positive powers come to full development.

This functional view of the individual as an instrument of production and consumption society is still encountered in a much more moderate form with certain critics of consumption society. According to Jameson (1991), the next phase is the post-modern consumption society: an orgy of diversity, playfulness, and superficiality. In the view of Jameson, this global carnival is the perfect logic of worldwide capitalism, with its constant craving for sensations, its niche marketing, and its flows of capital. "Permanent shopping is the paradigmatic experience of post-modernity."

This view is no longer very convincing. It is difficult to discover a one-dimensional logic in the chaotic and totally unexpected developments such as the downfall of Communist societies at the end of the 1980s, the rise of the Internet, the

nearly total shutdown of nuclear energy, and the emancipation of women in the western world since the 1970s, just to name a few. Cultural differences between nations and peoples continue to be great, sometimes even growing. Television plays a totally different role, dependent on sociocultural developments. The video has contributed to the speed of the upheavals in Eastern Europe and in Asian countries.

With numerous examples, Kellner shows how television can contribute to the democratization of rigid relationships, dependent on local factors (Kellner, 1990). In an essay that has become a classic, Morley (1993) points out that the reception of television is determined in particular by the social context of the viewer. Marcuse's criticism is an exponent of the elitist cold feet of the highly cultured for the innovations of mass culture by television and other mass medial. It is very one-sided in its focus on the high culture of concerts and intellectual coffee.

The 1990s saw work being done on a more modest perspective, which I would want to call the consumer society. The essence of this perspective is that consumers obtain greater influence in the market place, and that a demand-oriented approach has a greater chance of success than a supply-oriented approach. This focus on demand has penetrated further in some sectors of society than in others. In the industrial food world it has only just begun.

In chapter 9 about globalization, where I have described the various nuances of this perspective, it was evident that Hardt and Negri (2000) have thrown quite a bit of the old production and supply-oriented perspective of Marcuse overboard – but not the essence. Here I must immediately refute the misconception that consumers have total say in the consumer society. That is not the case. Instead, it is the supermarkets and the consumer interest organizations that decide what consumers must want. Nobody knows what consumers look like and what they want. That is why good research is needed into the way in which consumers can best be stimulated to speak up for themselves. I will come back to this later.

One of the most prominent modern theories about consumer society is that of Ritzer. In several books he argues that the McDonaldization of society means that large-scale consumer-oriented means provide a new magic in a world that for the rest is all business and hardly romantic (Ritzer, 1999). In the cathedrals of modern consumption – the large shopping centers on the outskirts of cities, the gigantic luxury- and leisure-oriented superstores, the large museums and the amusement parks with their plastic palms – magnificence and abundance is shaped in countless ways. According to Ritzer, the quality and authenticity of what is offered is hardly relevant: “What is particularly interesting with regard to that great emphasis on quantity is the clear absence of interest in communication about quality” (p. 82).

In Ritzer's view, this quantum paradise creates a new glow and wave of magic and exciting novelty. But does he not go too far in this? Does this new wave of fun-museums and other semicultural displays catch on, and are they viewed as new of forms of allure? What really drives consumers?

A familiar view holds that consumers in modern societies are driven by jealousy and mutual rivalry for social status. According to many, “keeping up with the Joneses” is the main incentive for growing consumption. One of the first to describe this incentive was Thorstein Veblen, who emphasized the manifest and public show of consumptive behavior – consumption has become blatant consumption.

This view has not remained unchallenged. Recently, sociologists such as Campbell and Schorr have pointed out that the mass media, in particular famous popstars, actors, and athletes, are far more relevant in purchasing behavior that is worth imitating. Schorr says about this:

“Social comparison and its dynamic manifestation, the need to stay at equal level, have been part and parcel of American culture since long. My term is ‘competitive consumption’, the idea that spending is mainly driven by a comparative or competitive process in which individuals try to comply with the norms of the social group that they identify themselves with, the ‘reference group’. Although the term is new, the idea is not. Thorstein Veblen, James Duesenberry, Fred Hirsch, and Robert Frank have all written about the importance of relative position as a dominant motivation for spending. What is new is the redefinition of the reference group: the comparison that people nowadays make relates in all likelihood less to households with comparable means. Instead, the lifestyles of the top, middle, and rich classes are a clearer reference point for people because of the income distribution. Luxury instead of strict comfort is a widespread motive.” (Schorr, 1999, p. 211)

But there are still other significant motives. A much deeper motive behind the urge to consume is the search for purpose, for aesthetic enjoyment, for expression. (Marcuse is indeed right in this regard!) Campbell (1987) links this search for purpose with the romantic spirit of experiencing nature that grew in the eighteenth century, which is often viewed as an alternative for science and the Enlightenment. In a historic context, this romantic spirit has a close link with pragmatism and Enlightenment. Modern and post-modern society has, as it were, two inner souls, a pragmatic one and a romantic one, that are in constant interaction with each other.

Campbell says: “The thesis of this book is also that the romantic is of great influence since the past two centuries in the victory of the forces of tradition, and that it constantly gives new impulses to the dynamism of consumerism.” (1987, p. 206) This interaction, the resulting chaotic dynamism, and the mosaic that it creates are not incorporated by Ritzer. In the food world, this dynamism has hardly crystallized yet. But the struggle between pragmatic and romantic-expressive – and, in relation thereto, between large and small – is felt everywhere, even when the pragmatic seems to rule, as during the period directly after World War II.

10.2 Where consumers stand – on the sideline

Since World War II, consumers have more and more been kept distant from food production, and they have tolerated that. Consumers have allowed themselves to be banned from Foodland. Most consumers assumed that food can be produced somewhere just like automobiles, and that it is sufficient to keep informed about the end product. But this turns out not to apply to food. It is an essential part of ourselves, much more essential than a car or video equipment – because it involves

living material, because we consume it each day, because it is directly on, in, and under the skin. Food is a matter of identity and of culture. Consumers therefore need to concern themselves not only with the product, but also with the process. A growing minority is becoming increasingly concerned with the processes.

The gap between food production and consumption is partly caused in all awareness; for another part it is the non-intended result of social developments, such as the far-reaching division of labor and specialization. Industrial companies thought that they would fare well with this. In the anniversary book that food enterprise Nestlé published in 1985, we read the following jubilant words:

“Each year we produce our own food with fewer people. In the modern industrialized world, only three percent of the professional population is farmer or fisherman. In some developing countries more than eighty percent of the population is still involved in food production, but the lowering trend is the same there. We are glad that we can leave farming and fishing in the hands of fewer experts, so that we in our turn can specialize in trade and other occupations.” (Maguelonne Toussaint-Samat et al. 1991, p. 18)

Goody, another well-known sociologist from the 1980s, noted the following about this gap: “Cooking is partly segregated from the preparation of food and altogether separated from its production” (1982, pp. 187-188).

How did the process of the separation between producers and consumers get started, and what factors determine that the gap is kept intact? The theory proclaimed by the sociologist Norbert Elias is often invoked to answer this. In *Über den Prozess der Zivilisation* (1939), Norbert showed that civilization led to people increasingly regulating and institutionalizing the involvement with their own bodies and those of others. As people became more dependent on each other, physical acts such as spitting and eating with the hands were no longer considered acceptable. Urinating, washing, and other physical acts were now done behind closed doors. The curtain of shame was raised higher and higher.

Elias himself gives especially much evidence for the thesis that western table manners “sank” from high to low and were honed sharper along the way. The upper classes devised increasingly refined manners for eating, so that they could distinguish themselves better from the lower classes. The lower classes in turn took over those manners in an attempt at upward mobility, after which the upper classes resorted to even more refined manners.

The theory of Elias has particular difficulty in dealing with back-to-nature phenomena, which it calls “regressions”, such as walking nude on beaches, in swimming pools, and on television, and an increasing interest in nature and living beings, which at times even lead to major political conflicts. These phenomena are blank spaces on the map of Elias, because his theory is too blunt and simple to enable a better understanding of social reality.

Many assert that the civilization theory of Elias also applies to the relations between humans and animals and between consumers and their food products, which consist for a large part after all of livestock. Here, too, a process of

irreversible sensitization for and exclusion of body and nature is alleged to take place. The carcasses at the butcher shop have disappeared; even the happy little cardboard pig outside the shop that extols the butcher's wares reminds people too much of the origin of their meat – so it has largely disappeared. Adherents point out the concentration of slaughtering in separate areas and the isolation thereof in separate abattoirs. The process of civilization has raised our sensitivity for cruelty to animals (Elias, 1939, I, p. 274).

Does this theory apply in the case of nutrition? I don't think so. To begin with the origin of abattoirs, that is a very complicated phenomenon. Social pressure, as Elias claims, may well have played a role here, but that applies just as well to technological developments, the growing role of government in maintaining health standards, and social processes such as urbanization and individualization. Also in what Elias would regard as more primitive civilizations, slaughtering is hidden away, as Thomas More already signaled in his *Utopia*.

It was not the noble upper layer that gave the main impulse to the creation of separate central locations for slaughtering. Those were the stakeholders: butchers, community public health services, city residents, and others (Koolmees, 1997).

As I have noted earlier, the gap between food production and food consumption is the result of both conscious and unconscious collective operations. In his magnificent study, *Nature's Metropolis. Chicago and the Great West*, W. Cronon (1991) shows that the rise of the metropolis of Chicago at the end of the nineteenth century was the result of the meat packaging process. Cattle from the western part of the United States was driven together in Chicago and flowed to the densely populated and rich eastern states in the form of beef.

“The packaging industry removed its customers most of all from the act of killing. (...) The more people got used to properly cut, carefully packaged meat and the smartly displayed packagings that Swift had introduced in the sector, the less they could remember that their purchase had once lived and breathed with a life just like their own. The highest goal of the packagers was to promote the commodification of meat and to cut even more through the bonds with the life and ecosystems that had ultimately created it.” (p. 256)

The separation between producers and consumers is obviously not achieved solely through technological developments related to food, such as cold storage cells. It is also the result of urban migration. And also of the growing romanticizing of nature (see chapter 7), which in turn was the result of keeping pets as well as of wild nature becoming scarcer, so that the Arcadian nature was appreciated less and wild nature more (Thomas, 1983). These complex social processes led to the myth that our meat and milk are not produced and processed, but that they come directly from nature (or, as the alternative, directly from the package). Few people still realize that eating a lamb chop or a prime rib means that an end product of a long technological process is being consumed, that is cleverly packaged in pictures of wild nature.

10.3 Consumers, citizens, and markets

How did the distinction between citizen and consumer arise?

The concept of citizen arose in the eighteenth century, during the Age of Enlightenment and the revolts against absolute rule in Germany, France, and England. The rulers and the feudal structure that kept them in power made no distinction between the management of their private households and personal servants and the management of the state over which they ruled and their subjects. The citizens rebelled against this, wanting a scope of activity where there would be no interference, such as freedom in commerce and in family life. They therefore called for civil rights, meaning negative rights that exempted citizens from interference by feudal rulers in their personal lifestyle and in commercial activities (a free market), so that personal life and trade and production would no longer be disrupted by privileges, bribery, and unfair taxes. The negative rights associated with the concept of citizen thus allow for governments to recognize a sphere of activity where citizens are free to do as they consider proper, so that they can present themselves as consumers in the market place or as political citizens in associations or unions in order to realize common interests.

In this reasoning it is essential to distinguish between the citizen, who is active in the political arena, and the consumer, active in the market. Traditional liberal theories derive this distinction from Rousseau's distinction between *bourgeois* and *citoyen*, or between *amour propre* and *amour de soi*, in other words, love that is oriented on the relationship between self and others and love oriented on self and one's personal natural urges (Rousseau 1959). Based on this distinction, consumers (*bourgeoisie*) can act freely in the market place according to their personal preferences and act together with others in the political sphere to develop their common preferences. Consumers are assigned a personal public and private domain, where their actions have consequences only for themselves: the market. The non-egocentric concept of *amour propre* is assigned to the public domain of politics, where citizens (*citoyens*) come together and act on the basis of civil sovereignty. This distinction is worked out further in the law theories of Kant and Hegel.

According to the traditional liberal tradition of autonomy, consumers who are active in markets are entitled to information about food products and available choices. Political or ethical issues, however, do not belong in the marketplace (contrary to the feudal system, which maintained the normative determination of trade and production) but in the political arena. In consequence hereof, governments are responsible for ensuring limiting conditions for production through appropriate norms and monitoring. For the nutrition system this means that governments must ensure adequate veterinary and health measures. Norms and monitoring aimed at the prevention of risks is a government task. The right to information is one of the good reasons for labeling, both in a general sense and in the specific aspect that consumers have the right to be informed about the health risks of food products.

The egocentric notion of consumer sovereignty, in combination with the corresponding distinction between citizen and consumer, is also found in the work of the Norwegian political philosopher Jon Elster. He says: "The concept of consumer sovereignty is only acceptable when it means that the consumer chooses

between methods of action that strictly differ in the way they impact him. In situations of political choice, however, the citizen is asked to express his preferences about situations that also differ in the way they impact other people" (Elster 1997, p. 10). The consumer is therefore seen as a passive and apolitical creature, while the producer arranges various options for action through creative entrepreneurship, exactly in the way Schumpeter formulated it in 1911 in a classic way: "It is (...) the producer who normally effects economic change, while consumers are given the incentive by him to want new things, or things that differ in certain respects from those that he was accustomed to use until now" (Schumpeter, 1999, p. 65).

What is important therefore is that this concept of consumer is linked to a specific view of the market, in which producers play a pro-active role, while consumers express their preferences through their money but are passive otherwise, not having influence on the shaping of the products that appear on the market. Critics of the market usually make this distinction in the same way. Greenpeace and other critics of neo-liberal globalization, for example, assert that not consumers in the supermarket but citizens in politics must make decisions; they have a neo-liberal view of the market and assume a passive consumer. C. Sunstein (2001), in his book *Republic.com*, uses this as his starting point when criticizing the concept of consumer sovereignty. He develops the concept of the consumer treadmill. He views consumers as squanderers, who allow themselves to be led to buy still another computer, television set, stereo system, or kitchen. Modern consumption sociology (Dagevos, 2002) indeed sees the consumer as an emotion-determined beast that leaps from one impulse purchase to another.

According to liberal theory, consumers should not be allowed to occupy themselves with public debate, consultation about goods, or the design of production processes. Within this view of the consumer (who can only choose between buying or not buying) there are, however, various sorts of nuances. The accent can thus shift from the very passive consumer, who must be protected for everything by government or industry, to the more alert consumer, who does not always need to be protected (Hirschman, 1970).

Problems with the distinction

Nowadays these clean-cut distinctions between the roles of consumer and citizen and the structures of market and government are under great pressure. Many consumers are aware that a focus on short-term profit (a cheap product) leads to damage in the long term (damage to the environment or to own or animal welfare). Consumers do not think: hey, I am also a citizen, but they realize that, for themselves as consumers, short-term choices can conflict with long-term choices. Information and communication between producers and consumers about matters than just price then become extremely important. Thompson (1989) draws the conclusion from this, which some liberals would consider far-fetched, of a dialogue between producers and consumers about risks: "Agricultural producers must participate in the dialogue that leads to social learning and social consensus about risks, and they must be prepared to contribute with time and other means so as to be able to understand the position of their fellow citizens and to make clear statements about their own position."

Regardless, consumers do not behave strictly as consumers, but as consumers-citizens in the market. Elements that, according to liberal theory, belong exclusively to citizens, are now propagated by consumers and vice versa. This is the first problem of the traditional distinction between citizen and consumer: it cannot be found empirically. The second problem is the fact that the structuring of markets is such that actual buying behavior never reflects the actual intentions and preferences of consumers (see section 11.4).

Let us start with the problem of the distinction being empirically untenable. In the food markets, many consumers loudly express their consumer concerns (Korthals 2001). They want meat from pigs, cows, and sheep that have enjoyed a good life; they want eggs from chickens that have had free range; they want farmers to stop discharging nitrates and other minerals that contaminate water; they want farmers in developing countries to get a fair chance at a decent living; they want to prevent the landscape from being spoiled by tall silos and endless monotonously green billiard fields. Citizen groups such as Pigs in Trouble, People for the ethical Treatment of Animals (PET), Slowfood, Ethical Consumer or environmental and landscape organisations let themselves be heard and succeed in getting many people to join demonstrations. Many consumers are simply dissatisfied with a passive role, of merely being able to decide between buying or not buying; they want to have an impact on what they need to buy, for you cannot do without eating.

Nonetheless, empirical research is still being conducted that tries to prove the distinction between citizen and consumer. This research is not valid, however, because the concept that serves as the foundation of this empirical research is altogether wrong, so that the wrong questions are asked and the answers of the respondents are interpreted incorrectly. The research is also not very objective in ethical terms; in my opinion, consumers are indirectly criticized by the researchers for their egoistic buying behavior. Without any respect for the position in which consumers find themselves and no analysis thereof, they are accused of blowing every which way, of giving socially desirable answers, and, when push comes to shove, of choosing for the big money, leaving the animals and the environment to fend for themselves. This buying behavior is embedded in a structure of food production and distribution that involves many more players than merely the consumer, so it is incorrect to blame all problems in Foodland strictly on the consumer. You need to have very strong arguments to criticize your research object, the consumers that you have subjected to research, and those are generally missing.

The distinction between citizen and consumer is strictly conceptual and cannot be identified empirically. It is like the distinction between the morning star and the evening star: there is only one planet Venus, so that morning and evening star refer to her and to nothing else. The distinction of citizen versus consumer is just like that; it is one and the same person that is referred to, and whether that person is active in the market or casting a vote, he or she does not change. In the words of the well-known critical economist Sagoff in his book *The Economy of the Earth*: “The two roles diverge so strongly that they seem two irreconcilable perspectives.” What does change depending on the social context are the motives, the social structures, and the expectations. Consumers do not throw off their citizen motives or their citizen identity in the supermarket. It is better to speak of consumer-citizens.

Paul Willis, one of the best known researchers of cultural studies from Birmingham, who has been conducting research into the cultural aspects of social classes and of young people in Great Britain, puts it as follows in his at times somewhat strange jargon: "People bring living identities to the market and to the consumption of cultural goods; at the same time they are also shaped by it. They bring their experiences, social position, and social memberships during their encounters in the market. So they also bring the necessary creative symbolic pressure, not only to give meaning to cultural goods, but partly through them to give meaning to contradiction and structure that they experience at school, at work or in their community and as members of a certain gender, race, class or age group." (Willis, 1990, p. 21) People thus present their sociocultural and political identity in the market. Only the circumstances are sometimes such that they cannot always make that identity precise and clearly manifest.

Consumer purchases and consumer preferences are not necessarily identical

The consumer view of market and buying behavior also involves a second problem. I refer to the improper assumption that buying behavior is an adequate expression of the preferred choice of the consumer and the failure to recognize that markets exist by the grace of institutional arrangements and social contexts. Choices that are revealed in the market in the purchase of goods cannot be equated with the preferences of consumers, for the choices depend on the preferences of other players and of the institutional arrangements and of how the other players deal with those institutional arrangements. Thus, if I have a preference that is difficult to exercise in the market (even if only because I live at great distance from a possible buying location), then I cannot express my preferred choice through my buying behavior. And in reverse, if I buy something because it is cheap and available in large quantities, then my purchase is not necessarily identical to my preferred choice.

When making a purchase in the market, I assume as buyer that certain minimum requirements have been met. It is unreasonable to expect a buyer to assume that he can purchase goods that meet minimum requirements only when he is prepared to pay more. It is simply the task of the producer to produce goods that meet minimum requirements. What those minimum requirements are is determined by the institutional arrangements and the broad sociocultural context in which the buyer lives. When I buy an airline ticket, I assume that the airline meets appropriate safety requirements. If an airline company wants me to pay a higher price for a flight that is guaranteed to be safe, then something is inherently wrong with other airline companies that charge less or with the regulatory bodies for the airline industry. Obviously I am not prepared to pay a higher price because an airline company should simply provide a safe product. The same applies to grocery products; consumers expect that the products meet the requirements of safety, animal welfare, and health and do not want to pay producers for something that the products should guarantee anyhow. And asking a higher price for an animal-friendly product? Are there sufficient guarantees that the market will actually deliver that product? Why reward producers who torment animals by allowing them to provide a product that is animal-unfriendly for a lower price?

The criticism of consumers that they show inconsistent buying behavior is thus based on an improper conclusion based on research techniques that are usually not refined enough to be able to measure the institutional context of the preferential choices of consumers. After all, the mere observation that consumers always buy the cheapest product does not tell anything about their real preferences and considerations. Someone who, according to such studies, wants to promote animal welfare but never buys free-range eggs is not necessarily inconsistent, for such a person may simply have little confidence in the quality mark of free-range eggs. Research must therefore go farther than to ask “citizens” about their ethical preferences and “consumers” about their buying behavior. We must proceed toward a sociocultural view of citizen-consumers, with the assumption that they apply a more or less political perspective in their purchases on the market. Before I deal with this subject in detail, I must first refute the eighteenth-century illusion that the optimal market is free from standards (just like the consumer in the view that I object to) and discuss the relationship between standards and markets.

Standards create markets

Eighteenth century economists and modern adherents of a free market see standards as limitations of freedom. They thus believe that markets that are regulated by standards instead of by financial considerations operate in a less than optimal way. Consumers and producers, they claim, should distance themselves from standards when engaged in the market. I wish to point out that a market is always embedded in a sociocultural context and that this can be accentuated by governments (or by consumer-citizens) without this by definition affecting competition and destroying efficiency in the long term. Market treaties always assume implicitly or explicitly determined rules that determine the expectations of the players, for example that the parties will abide by the contract and that the goods have the agreed quality. Markets are thus not free when there are no limitations. This incorrect assumption was the basis (understandably, by the way) of the traditional liberal theory in its dispute against feudalism. Markets are free depending on the type of restrictions. Rules that forbid something in the market limit possibilities, but they also provide room for new possibilities. In that sense all limitations of market behavior operate in two ways: they forbid certain behavior but stimulate other behavior.

The ban against producing unsafe food, for example, limits certain market players but gives others, in this case firstly consumers, the possibility of a longer life. Secondly, it also presents producers the possibility of producing safe food. The new rules thus create new groups of entrepreneurs (and consumers) and new interests. Rules forbid and give possibilities; both sides always come forth. The key question is therefore not whether rules will come or not, but which rules and especially: which groups benefit from the new rules, and which groups will experience the drawbacks thereof. (I rely here on the interesting work by Bromley from 1989, *Economic Interests and Institutions. The Conceptual Foundations of Public Policy*.)

Government rules that regulate markets thus define degrees of freedom for certain groups and limit the degrees of freedom of other groups. According to Bromley, there is a governing structure of standards, conventions, rules, practices,

and laws that shape or define the choice options of individuals and groups in an economic setting. Pursuing this view, Bromley arrives at the thought that not only goods are traded in a market, but also institutional rules, standards, and other regulations. The rules also imply standards of goods and services; they are defined by the social institutions that operate in markets. From this view, government intervention in markets, ethical consumption, and ethical entrepreneurship an altogether different meaning than in the liberal or neo-liberal view. It does not disturb markets but can create new markets.

Consumer ethics and social responsible entrepreneurship

Yes, consumers do more than consume, and producers do more than produce. Each group has always applied ethical rules and quality standards to some degree or other. In the case of food, those rules and quality standards have little public attention for years. The result is a wide confidence gap between consumer expectations and producer behavior. The two groups no longer know what they can expect from each other, and the traditional distinction between consumer and citizen only results in greater uncertainty. To bridge this gap between producer and consumer, I would want to encourage the consumer-citizen to become more involved in the ethical issues of food production, and to stimulate companies to conduct their business in a more socially responsible fashion. Socially responsible business conduct is nothing other than the conscious shaping of policy in connection with social issues that unconsciously always takes place in the market, so it is not an externally imposed requirement. The social neutrality that is advocated by those who see no advantage in socially responsible business conduct, claiming that it is counter to the logic of the valueless market, is impossible to maintain in practical market conduct. Those who apply the distinction between citizen and consumer (whether they are called Greenpeace or Unilever) fall within the liberal tradition that has been criticized here.

Large socially oriented corporations try to incorporate the criteria of human rights, employee rights, environmental requirements, and other consumer cares in their policy, and this is in no way counter to the logic of the marketplace. Companies such as Starbuck (coffee), Shell, and Unilever negotiate with NGOs about their ethical codes. The question may be asked, however, what influence citizens/consumers have on these NGOs. A different story is the control over the promises made by socially oriented corporations, so that consumers can be sure that these are not idle. In line with what was said earlier about the necessity of strong control institutions, markets that function optimally need strong regulatory bodies (see Brunkhorst and Kettner, 2000), in which consumer groups and other stakeholders participate. Government policy has the important tasks in that regard to guarantee independent regulatory bodies and to encourage a modern consumer ethical policy (see chapter 11).

10.4 Tastes – enjoying, feasting, and fasting

Why do we eat, anyway? What motives do consumers have? What happens during a meal? To start with the last question: during a meal we gain many impressions, in

terms of taste and smell. This last distinction is quite significant, because the nose is much more sensitive than the mouth: we can distinguish between one or two thousand smells but only about ninety tastes. But our eyes also join in. Wine connoisseurs get totally confused if a bit of water is added to their Romanée-Conti, causing the wine to tend toward rosé. Eating is a sensory happening, involving all senses. There is no more beautiful poem than that by Rainer Maria Rilke, which attempts to express the speechless and lively aspects of eating:

*Voller Apfel, Birne und Banane,
Stachelbeere ... Alles dieses spricht
Tod und Leben in den Mund... Ich ahne...
Lest es einem Kind vom Angesicht,*

*wenn es sie erschmeckt. Dies kommt von weit.
Wird euch langsam namenlos im Munde?
Wo sonst Worte waren, fließen Funde,
aus dem Fruchtfleisch überrascht befreit.*

*Wagt zu sagen, was ihr Apfel nennt.
Diese Süsse, die sich erst verdichtet,
um, im Schmecken leise aufgerichtet,*

*klar zu werden, wach und transparent,
doppeldeutig, sonnig, erdig, hiesig – :
O Erfahrung, Fühlung, Freude – , riesig!*

Full of apple, pear, and banana,
gooseberry ... All this speaks
death and life in the mouth ... I suspect..
A child shows it in the face

when it tastes it. This comes from far.
Does it slowly become nameless in the mouth?
Where words were, discoveries flow,
liberated surprisingly from the fruit pulp.

Dare to say what you call apple.
This sweetness that first encloses itself
to, softly raised in the taste,

become clear, awake and transparent,
equivocal, sunny, earthy, from here – :
experience, sensation, joy – : tremendous!

(Rainer Maria Rilke. *In Einem Fremden Park, Gartengedichte*, Insel-Bücherei, 1993, p. 63)

Rilke keeps jumping from a vocabulary in which the mouth is used to speak and read to a vocabulary where the mouth is used for eating. He interprets the pleasure that we have when another person enjoys in terms of reading a book: "You can tell the enjoyment of a child by the looks on its face." Is enjoyment not a lonesome act? The philosopher Levinas (1906) asserts something along that line, even though he places much emphasis on noticing the face of the other. I suspect that this is because he does not involve the body with its total significance, as an organ that both provides and is given meaning, in the midst of the natural and social world, in his ethic. Eating not only gives taste sensations; it is also a social happening. Preparing and enjoying a meal together with others are essential social events.

That is why eating is not appreciated properly when it is strictly viewed as physically taking food in the body. Freud implies this in *Die Verneinung* (1932); according to him, eating belongs to the phase of the sexual development of the child in which it is interested in bringing something from outside to inside the body. When an adult is intensely fascinated with this at a later phase in life, this is rather infantile and points to traumatic fixations during childhood. An adult person focuses on the outside world and tries to shape this according to his philosophy, leaving a lasting result behind.

Since Freud takes the adult, heterosexual male as an example of ripe and adult behavior, it is not surprising that he typifies people who want to put the world into their body as immature (and female). But is such a description of eating not a bit infantile itself? What kind of person are you when you regard eating strictly as putting something into your mouth? Obviously there are links between eating and sex, and the preparation of a meal can be seen as sexual foreplay: we soften the butter, take the seeds from the cucumber or tomatoes, let the dough rise in the oven – and all this ultimately leads to a common meal (see Esquivel, 1992). But these are only partial similarities.

Most consumers in this world swear by the social meaning of food, when it involves feasting or fasting, abundance or hunger. Hunger continues to be a dominant theme in the non-western world, which conflicts with the right to food, as I have explained in the previous chapter. Deliberate hunger and abundance are dominant in the western world. Gargantua and the Grim Reaper, Fatso and Simeon Stylites, they are all icons for the gluttonous eater and the anorexic or ascetic non-eater. These icons refer to the eating styles mentioned in chapter 4, the social and cultural aspects of nutrition and the differing views of the good life that are found in the western world. But there are more, for we have many motives to eat or not to eat, such as health, sport, leisure, tradition, companionship, and homeliness.

Sensual or international

Obviously the first motive is that of pleasing the senses and everything related thereto. Our senses are intimately related to what they experience, now and in the past. Senses have memories; I can immediately conjure up the smell of sugared rice when I think of the kitchen of the home where I grew up at the Keizersgracht in Amsterdam. Proust starts his novel *À la recherche du temps perdu* with a description of the smell of a Madeleine and of the memories that this evokes with the main character. This scene turns out to play a key role in the rest of the novel.

But our senses are not fully determined by the context, and all things are not relative. Certain censures are very fundamental and occur in most cultures. Eating one's children is regarded as something atrocious. In Greek mythology there is the story of the curse that befell the Pelops family when Minos served his children to the gods who were visiting. Eating human flesh or any awful dish whatsoever causes a very emotional reaction; our stomach turns, and we just can't keep things inside anymore. A good example of the fierceness of these emotions is the reaction to the movie *La grande bouffe* of Marco Ferreri, in which the main characters (including Marcello Mastroianni, Michel Piccoli, and Philippe Noiret) eat themselves to death. Upon its appearance, this movie evoked many negative reactions. The film reviewer of *de Volkskrant* wrote, upon its premiere in 1973:

"A house full of French authorities and bright-spirited representatives of the middle class, all looking perfect in evening dress, saw with growing disgust how a number of men in the movie literally ate themselves to death burping and farting. The commotion in the auditorium grew by the minute and infernal catcalls accompanied the closing scenes. (...) With clenched fists and barely able to control themselves since their evening dress prevented an ordinary fight, the plagued visitors, enveloped in rage, took to a nearby terrace."

Today, thirty years later, this no longer happens. Our culture has become more hedonistic, and the body is tolerated much more. Lots of food, scrounging, and, more so often, burping and farting, the use of all sorts of other physical entrances and exits on the stage, on television, and in movies, all this has become commonplace. Sometimes I too find it too much and long for taboos again. But I can quite well respect the discovery of new enjoyments and appreciate the inherent joy of it all. We want to enjoy, we want to discover everything that is possible in culinary things, tasting all sorts of foods, trying out strange dishes, experimenting with tastes. It is like Rilke wrote in his poem: we can shape words in the mouth that we can read, but the mouth also enables us to eat, taste, experience, and undergo life and death.

By tasting we liberate the tastes that are captured in food; by eating we discover new properties of ourselves and the world. In that sense, eating is something like mining. At the surface of fruit, vegetables, or any other food product it is not possible to read what taste is contained therein. We need a mouth (and a nose) for that, and usually the necessary preparations. Sometimes there are visual guidelines, but to really experience it we must taste; we must liberate the taste from the fruit. Many people realize this, which is why there is a constant search for new dishes, new tastes, new crossborder comestibles. Here we hit upon the strange paradox that the apparently nostalgic urge for old foods and for a return to past manners of preparing food can be motivated by renewal and the urge to exceed what exists now. The slow food movement is a good example of this. Eating birds, brains, and entrails – traditional dishes – is an old challenge in new dress.

It is not the first time that this sort of excesses takes place; it happens more often in times of economic prosperity. In the Dutch golden age, rich burghers tried out

everything. A look at the paintings of eateries that were produced then in large numbers or at still lives evidence this. The paintings of Van Gelder portray snails, insects, swans, peacocks, and other animals. Beautiful too are the still life paintings of food by Jan Davidszn. de Heem and Isaak Elyas.

Beautiful books have been written about experiments with new and unknown ingredients. In *The Curiosities of Food. On the Dainties and Delicacies of Different Nations Obtained from the Animal Kingdom* (1859), P.L. Simmonds describes a number of exciting culinary voyages of discovery. In *A Cook's Tour*, Anthony Bourdain treats the reader to cobra heart and sheep testicles. Calvin Schwabes presents recipes in his book *Unmentionable Cuisine* for opossum meat, giraffe steak, and pig's womb. Here is his recipe for dog meat:

Clean the puppy and remove the bowels. Remove the hair using a fire of rice straw. Continue this treatment until the skin is a nice brown color. Cut the meat into small parts and bake it in a wok. Add oil, ginger, and garlic. Meanwhile, in another wok, bake dried salted black beans for ten minutes. Add the meat, some soy sauce, and green onions to the baked beans. Stir for a few moments.

The ascetic eater

The fierce reactions to "abnormal" food has another side: the obsession of eating too much of the wrong thing. An almost religious fear overcomes many people, even those who claim to have renounced religion, when they believe that they have put on too much weight. This may even take psychopathologic proportions in the form of anorexia or orthorexia (a morbid craving for strictly healthy food).

Between these two extremes are the other food styles, which in turn are related to flavour styles. But, as mentioned in chapter 5, taste is not blind and is not the only factor that determines food choice. Lifestyle, social context, micro- and macrosocial developments also play a role. You are not what you eat. And there is a history of taste that is not determined by taste alone but just as much by social, technological, and natural circumstances. Lastly, also important for individual taste is the phase in life that we are in, because the way individual persons experience the taste of food products is dependent on that.

10.5 Gluttony – sin or pleasure

Gluttony is not something to boast about. In books, novels, films, and songs it is often presented in the unsympathetic character of the insatiable eater. To name the best known of these: *La Grande Bouffe*, *Seven*, Dante's *Divina Comedia*, Shakespeare's *Falstaff*, Rabelais' *Gargantua and Pantagruel*, *Holle Bolle Gijis*. But gluttony is not always viewed negatively. Many cultures also present positive and utopian views of good and plentiful food. Just think of the land of milk and honey, where every kind of delicacy is for the taking, of *Tischlein deck dich*, of *Cornucopia*, of *The Land of Kokanje* with its rivers of wine.

Gluttony enjoys considerable attention from both science and religion. Even in everyday life the subject often comes up. It involves the question who may be called gluttonous and what gluttony really is. There is much controversy on this point. Christianity in particular has regularly condemned gluttony as a mortal sin, along with greed, laziness, wrath, lust, and arrogance. Gluttony is portrayed as a sin for which the sinner must be permanently marked, with hell as eternal punishment.

Since the religious allegations are generally known, I will focus here on various notions and biases from the quasi-scientific sphere. The free body movement (*Freikörper Kultur*) in the early twentieth century reacted against the modern human being, who was turning out to be an avid meat eater, exhibiting licentious and extravagant eating behavior. This modern human being, not put off that easily, was quick to respond to this charge. Gluttony likewise played a role in its response: the *Freikörper Kultur* was accused of eating enormous quantities of vegetables and putting away gallons of milk – which would inevitably lead to even more nudism, sunning, and other immoral behavior.

Another example is the vegetarian movement of John Harvey Kellogg, who gave his name to the breakfast with milk and cornflakes that he discovered. Kellogg designed his cereal breakfast as an alternative to the licentious traditional Anglosaxon breakfast that consisted of ham, sausages, and eggs and to drinking alcoholic beverages. This is described in Boyle's book *The Road to Wellville*.

A typical feature in many of these controversies is that gluttony is used as an ideological term of abuse to isolate opponents and to strengthen team spirit. Other "arguments" that turn up with some regularity in the ideological fights are:

- Meat harms the intestines and leads to self-poisoning (according to vegetarians including Kellogg).
- Milk is the healthiest drink available. According to the veganist movement, however, it leads to leukemia and to stomach and intestinal ailments.
- Bread makes you shortsighted (according to a recent study, reported by the BBC on April 4, 2002).
- Wine leads to hangovers, excessive behavior, and other mortal sins. (This last claim comes especially from all sorts of religious thinkers and theologians.)
- Sugar is a particularly poisonous stuff (according to Yudkin) that causes cancer and other dreadful diseases. In the nineteenth century, eating sugar was equated with acceptance of slavery, which was rampant on sugar plantations – eating sugar meant eating Negroes.

This ideological fight, fought mainly by scatterbrains and fanatics, might tempt us to stop thinking about the concept of gluttony altogether. But there is more to it, and so I do not want to give up the search into gluttony as a sin that easily. All too long, ethicists in our liberal culture have asserted that sin does not exist and that every person should be able to organize his own life as he sees it. We should also try to say something reasonable about the different philosophies, without falling into moralism or paternalism.

According to the church, both Catholic and Protestant, gluttony is traditionally equated with licentiousness and with orgies of drink and excessive food. A person is called a glutton when he or she lacks self-control when it comes to eating and drinking. Someone who is gluttonous lives by way of his stomach, eats profusely and lavishly, and does not aim for the higher things in life – leading to hell and damnation. Young children are excluded from this doom scenario, no matter how they gorge themselves. They still need to learn to assess their abilities and to match their actions to these.

The direct results of gluttony may be a sharp headache or feeling sick in the stomach; in the long run you may no longer be able to walk and sleep. During a hangover we crawl on hands and feet to the sink or the toilet, throw up, or wake up like a pig in our own vomit. The saying goes that what goes into the mouth in gluttony, leaves us via the mouth, with all the misery of bad breath, awful taste, the stench of rotten eggs, moodiness, and excrements smelling like a skunk. All this is common knowledge. In *The Deipnosophists* (see chapter 2), fifteen books written in the second or third century A.D. and filled with scholarly discussions around the table about sex, eating, and pleasure, Athenaeus notes:

“Experience has taught us that, because of the potency of this divine drink, wine can give strength both in body and spirit, but that it is a pleasure only for those who use it with moderation, which is why Dionysius is called ‘the giver of health’. Still, some say that the god personally established the boundaries, because he mixed only three glasses of wine: the first one for health, the second for love, and the third for sleep. The fourth glass, it is said, leads to violence, the fifth to riots, the sixth to drunkenness, and the seventh to fainting. The eighth, they go on, leads to arrest, the ninth to melancholy, and the tenth to idiocy and destruction of furniture. All this is well known; for wine in reasonable proportions is good, but excessive drinking is followed by foolishness, which is followed in turn by base accusations, which are followed by handcuffs and a penalty, which all leads us back to wine is fine.”

Eighteen hundred years later, Bertrand Russell writes'

“Following enough drink, men start to weep and to complain that, in moral terms, they no longer deserve the dedication of their mother. The only thing that alcohol does for them is to awake their sense of guilt, which does not bother them during times when they are more sensible.” (*The Conquest of Happiness*, 1954)

The long-term effects of gluttony are really worse. Gluttony leads to flabbiness and ugliness and to irritation because of the ethical discomfort. But above all, it leads to much physical discomfort: you can no longer get through the door, your bed and your chair need to be braced, you become short of breath, and much more. Sociologically, we see that when poor people are really poor and have little to eat, being heavy is in (as in the Middle Ages). And opposite, when the poor are fat, then

a skinny and anorexic body is in (as we see today). So we see a clear link between socio-economic class and the way the effects of gluttony are viewed.

Psychologists point to the satisfaction of sexual and other desires by means of eating. People eat without measure, or without really being hungry, because something else is “eating” them. People often eat in order to forget their traumas or so as not to feel some personal emptiness. When we call someone or a group of people gluttonous, then this judgement clearly has a smell to it. The judgement that a group of people is gluttonous usually has a clearly ideological character; it introduces a we-she distinction and leads to stigmatization. If the criticism involves gluttony in relation to a certain product, then a different type of gluttony is often encouraged that way.

A good example of this is Kellogg who sees eating large amounts of meat as the source of all evil and prescribes drinking gallons of milk. The accusation of gluttony and licentiousness often works like a boomerang, because it strikes back at the person making the accusation. For such person also has to eat, for eating is unavoidable.

This demonstrates the extreme reflectivity of this sin: reflectivity in the sense that the accusation of gluttony reflects on the accuser. Another mortal sin, that of pride, contains this also. If I call someone arrogant, then it shows that I have the guts to say this – and I run the chance of being accused of being arrogant myself. Stinginess, envy, wrath, lust, and laziness do not have this reflectivity. The funny thing is that the reflectivity of gluttony is not rooted in our conscience, but in the body, in the fact that every speaker who calls someone else a glutton must eat just the same.

Gluttony and its effects, especially obesity, are clearly culturally determined – just look at the United States, where more than ever before, more visibly than ever, many people are Very Fat. The Very Fat include especially the cleaning lady, the packer, the store cashier, the factory worker, and the bus driver – not the college professor, the top manager, or the TV star. Obesity is in part a class phenomenon, as the Very Fat are found mostly among poor people. Still, it is not solely a class phenomenon, for Very Fat people are found also among the rich. But among African and Hispanic Americans, some 25 percent is Very Fat.

This is all related to cheap junk food and fastfood. For three dollars you can fill yourself in the US with three thousand calories, enough for a hungry African to survive. The taste of all this fastfood is not bad, but simply nothing, a cotton wad taste – out of boredom you keep eating the entire day. When you see Very Fat People, you cannot help but think: if I were like that, how much trouble would it not take me to get out of bed. (But maybe you cannot even get into bed, for what bed would hold such weight?) Or you think: how would you get one foot in front of the other? (It is known that, when walking, such fat legs get in each other's way, so that all kinds of friction wounds arise.)

In medical terms, things are even worse. Obesity is often associated with diabetes, sleeping disorders such as apnea (sudden breathing interruptions during sleep, so that someone must sit next to you to keep you alive), asthma, high blood pressure, and cardiovascular diseases – in short, premature death. How did this

terrible disaster overcome the US? Are all those people sinners, totally depraved in their gluttony?

Is gluttony sinful?

Especially in a world with a shortage of food, gluttony is antisocial as it obstructs the fair allocation of food. Stuffing yourself while your immediate neighbor is starving is quite antisocial. But stuffing yourself while people are starving thousands of miles away mainly reflects a lack of self-control, for food can usually not be transported over long distances. More important is that simple gifts of food or donations do not prevent the problem of famine – more so, they even worsen the problem. The regular food aid to Somalia and Ethiopia keeps decimating the agricultural population and stands in the way of structural local solutions.

Gluttony can thus be regarded only in a limited way as an infringement on social justice and equality; for that reason it cannot be called a sin just like that. Why would it have to be called a sin at all? Why would eating too much be so evil that it must be called sinful?

The traditional theological answer has its core in the negative view of an autonomous function of the body. Both in Catholic and Protestant philosophy, the body is merely a vehicle to higher things and may not impose itself. The body functions best when it remains unnoticed. The body may not provide personal enjoyment, neither sexually nor in the sense of nutrition and a good meal. According to the Church, nutrition must focus on the satisfaction of stomach and mouth, implying that the complex interaction of the senses and the social circumstances that make for a good meal are ignored.

The full stomach, the palate, and the esophagus are therefore pictured flat, vulgar, and coarse, so that all attention goes to the enticements of the spirit. In his letter to the Philippians, Paul writes: “Many of whom I have often spoken with you live as enemies of the cross of Christ. They are destined to be lost, they make foods into their god, and they occupy themselves with earthly things” (*Philippians* 3, 18-19). Centuries later, John Milton (1608-1674) expresses this same thought: “Pig’s gluttony never looks to heaven during its enormous food orgy. But with drunken, vulgar ingratitude it insults its feeder.” (From his pastoral play *Comus*, 1637, verse 776.) Gluttony is, according to Milton, a sin because it violates the vertical relation with a supreme being.

But why should we regard the body, our senses, stomach, mouth, and nose in such a negative way and not take a more positive position? We could view the senses and enjoyment also as means to heaven. (See later, under Feuerbach.) And if there is no heaven, can we then not enjoy this enjoyment without any restrictions? Is gluttony still sinful when we reject this negative view of the body?

According to the hedonist, gluttony is not a sin, because enjoyment of the body, with or without others, is good (see Onfray, *The Art of Enjoyment*). But hedonism does maintain that there can be too much of a good thing; excessive eating and excessive drinking is not good. The measure of enjoyment and of the excess lies in the enjoyment itself, not outside in the spirit or in heaven: the measure lies in the senses. Eating excessively is bad according to the hedonists because it hinders the enjoyment of a next meal. Drinking excessively is bad because it can endanger

friendship, which the pleasure of a meal intensifies so strongly, through drunkenness.

Rigotti, in *Philosophie in der Küche* (philosophy in the kitchen), believes that excessive eating is something like excessive talking. Both are bad; she even speaks of “the mortal sin of intemperance”. But, eating too much is no reason to call gluttony a mortal sin or a sin with a capital S, provided you harm no one other than yourself. Gluttony is then a discomfort at most, a sin with a very small letter. However, gluttony does not have the final word. The sin of gluttony lies in something altogether different: in the lack of respect for living beings.

Excessive eating – why do people do it?

The question why has an individual or a structural answer. We can lay the reason why with the individual person or with structures. Structure, in turn, can be biological (genetic) or social or both.

The traditional theory of sin places full responsibility with the individual. Guilt lies with the individual person, who must change his behavior. The philosophy of sin thus has plenty of advice on how we can get rid of those excess pounds. This answer starts out from the premise that the individual has personal responsibility and is able to control himself.

I think that the issue is more complex, that there are situations in which individual persons are *not* able to control themselves. Individual persons are vulnerable, and their vulnerability differs depending on the possibilities that a person has to change the situation. If you are powerful and rich, then you have greater possibilities to change yourself than if you live in a slum, are very poor, and are also disabled or feeble. Traditional theory does not properly account for the situational vulnerability of individual persons. In the case of excessive weight, I prefer then to a social answer, certainly as it applies to the United States.

A possible socio-structural explanation comes from the well-known sociologist Mary Douglas. She claims that certain consumers clearly hear the warning of scientists regarding excess weight, but that these people live in communities that simply cannot cope with these warnings. She believes, for example, that in certain communities the quantity of food is a decisive factor in social relationships. She distinguishes here between selective hospitality and all-inclusive hospitality. In France, we find selective hospitality; the unwritten rule there is that you invite people in a very selective way and then serve them an exquisite dinner. The dinner involves a great deal of preparation and includes many special ingredients. Sudden changes, such as new guests or a different sequence of courses, cannot be tolerated. The quality of life and selective hospitality are thus closely related.

The second form of hospitality puts no limits to the number of eaters and involves a large quantity of food. There is no clear sequence to the dinner courses or the time when the food is consumed. This form of inclusive hospitality is very common and deeply embedded in the Moslim and Mediterranean world. The American form of hospitality at churches or sporting events is roughly similar. In this second form, limiting the food intake is tantamount to a lack of hospitality. In communities that have this form of hospitality, the warnings of food experts fall on deaf ears.

This explanation is called socio-cultural, meaning that it ignores the type of food or rejects nutritional and biological factors. Within this explanation, individual persons are viewed as marionettes of social structures.

But does this explanation hold? It is certainly elegant, but it does not satisfy me personally. The culture of Very Fat People in the United States is, as far as I can determine, not aimed at all at inclusive hospitality. These people definitely select their guests (just like churches and baseball clubs), assuming that they organize meals for others at all. This explanation is strictly social and does not take into account what is eaten and the related technological developments.

I believe that the matter is much more complex. For that reason I present a different hypothesis. My explanation focuses on social and technological factors that interact in a complicated manner. Firstly, much food in the United States is nothing other than junk. In *Fast Food Nation* (2000), Schlosser provides a detailed explanation of this. Fastfood, regardless of whether it dresses itself with light and natural, comes down to fat and tasteless junk. Most of the food business in the United States is in the hands of a small number of very large companies that are only interested in making a profit and hardly in how people feed themselves.

Secondly, good food is very expensive in the United States. It may well be that you only need to spend thirteen percent of your income on food, but what you get in return is junk. If you want nutritious and healthy food, then you will find yourself spending at least twice as much as in Europe. Due to the successful lobby in Washington of the food industry, an apple costs about as much as a piece of steak (about one dollar). Freshly baked bread (almost impossible to get anywhere) costs three to four dollars, versus 75 cents for a loaf of supermarket bread. If you are poor and do not have the time or money to go to a quality store (like in the big cities), then you are tied to such fattening food.

So much for this simplistic, socio-economic explanation. Other factors must be added to this, such as the limited satisfaction after eating fastfood. Such food contains a great deal of fat, and as the taste hardly satisfies, people continue eating.

A third factor that plays a role in the rise of all those Fat People in the US is that food has been a question of health for over a century, not of enjoyment. Toward the end of the twentieth century, the trend arose in the US – stimulated in particular by nutrition scientists – that health and the human body (and with women, also appearance) are foremost when it comes to food. All this is smothered by a thick moralist sauce: food is good when it does not make you fat and unhealthy, bad when it makes you unhealthy and you enjoy it. In supermarkets, the language of puritan self-denial prevails, with commandments such as little fat, little cholesterol, few tissues – and all this is specified on the labels down to three digits. Not a word about taste, pleasure, and common enjoyment.

The emphasis on good physical health fits within a predominantly puritan culture, in which enjoyment is bad and leads to moral decay. In television commercials, food is not extolled because it tastes good but because it is lite, fatfree, and good for the heart and blood vessels. This leads to anorexia nervosa, bulimia, or the new disease orthorexia (a craving for food health; see Bratman 2000). For obese people, this means that they realize that they totally fail to meet this high puritan measure, so they write themselves (their body) off. Exactly because the yardstick of

healthy nutrition lies so high and is associated with feelings of moral superiority, those who fail to meet the standard neglect themselves totally. The sad stories of obese people that I have read confirm this view. Apparently, enjoyment is associated with respect for your own body, and for the living beings that provide the products that you ultimately consume after processing.

Reassessment of sin

Let us not fall into the trap of equating a nice structural explanation with an ethical analysis, for that is something altogether different. For that reason I will try it once more, but this time by reviewing the general preparations of a meal. Before we sit down at the table, all sorts of things need to happen: production, transport, processing, purchase, preparation of food ingredients. What all goes on here?

The issues that have played in public debates during the past decades all have to do with this phase of production and preparation. In the very first phase, that of primary production as it is called – the production of animals and plants that are then processed in industrial plants – substantial problems have been noted. Animals are often treated badly on farms; production leads to environmental pollution; the landscape is not properly maintained, sometimes even destroyed; genetic modification gives reason to suspecting that even more animals are tormented and that the profit motive becomes even more dominant. At the same time, many people claim that the quality of food goes down and that environmental risks grow. Small farmers in third world countries (for example, Max Havelaar coffee) are the victims. On top of that, large number of animals, even pets, may be killed because of sudden and unnecessary political decisions, such as during the food and mouth disease crisis. Experts come with all sorts of calculations, for example that vaccination is impossible or too expensive, and what have you (see chapter 8).

The public turmoil about food is associated with the fact that, in the past fifty years, consumers have increasingly been kept away from food production activities and have tolerated this. The gap between food production and consumption has in part arisen consciously. For another part it is the non-intentional result of societal developments, such as extreme division of labor and specialization, as I have argued in section 10.2 of this chapter. The gap makes us ill at ease, for nutrition is a prime need and an essential part of us, much more so than a car or video player. Nutrition is a matter of identity and of culture. The involvement of consumers not only involves the product but also the processes and is therefore necessary. A growing minority is increasingly getting involved.

The problems in the food production sector are enormous, and the gap is very counterproductive and leads to ethical shortsightedness on the part of both producers and consumers. For that reason we need to reassess the sin (with a capital S) of gluttony: not the enjoyment is a sin, but not bothering about the ethical aspect of food production, about what happens to the living material before it disappears into our mouth. The sin lies not in licentiousness, enjoyment, much and excessive eating, or in lack of gratitude toward a creator, but in the lack of interest for the human beings, animals, and plants that provide the food. The sin does not involve the body or the alleged vertical relationship with a supreme being, but it lies in the faulty, non-respectful, horizontal relationship with our fellow human beings and other

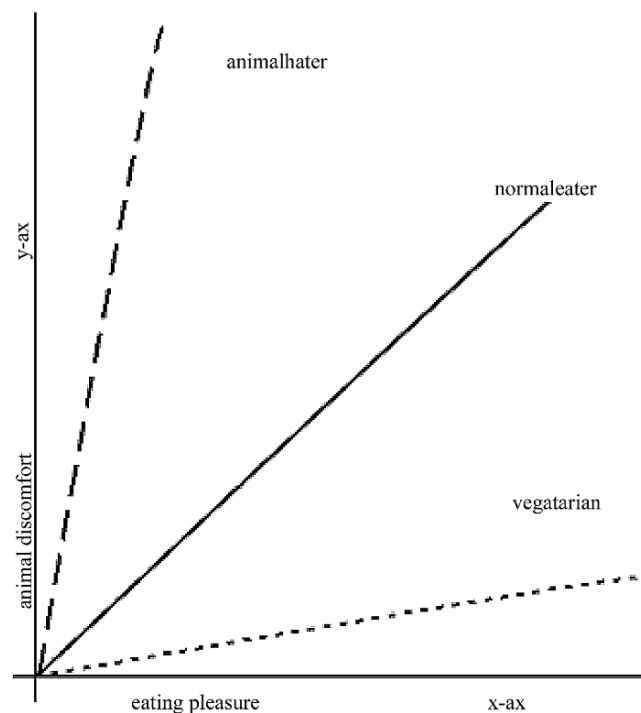
living beings. The sin of gluttony lies in our ignorance, in not wanting to know, in not wanting to get involved, in the lack of interest in food production. It does not lie in any licentiousness or the enjoyment of food, but in the lack of interest and lack of care for the human beings, animals, and plants that are the source of food. It is sinful not to want to know what has happened with food products, or not wanting to act in line with our knowledge.

Consumers have a personal responsibility; they must be prepared to pay well and to watch for better quality. If you are offered a bicycle in a dark alley for fifteen dollars, you know that this is not kosher. But when offered a pound of chicken meat for a single dollar, most people simply accept this and buy the chicken, without wondering whether such a ridiculous price isn't evidence of abuse in the production of the meat.

I am absolutely not the only or the first person to charge this. The same ideas are found were expressed by the nineteenth century philosopher Feuerbach. As described in chapter 2, eating is the ultimate religious act for Feuerbach; respect for all that precedes a meal is part of that. Real enjoyment of a meal is only possible when respect is actually shown. Let me repeat the first part of the quote presented earlier (chapter 3), followed by a piece of text that is specially reserved for this chapter:

“Eating and drinking are the mystery of the Last Supper. Eating and drinking as such are indeed a religious act, or should be such at any rate. Think therefore at every bite of bread that frees you from the pain of hunger, at every sip of wine that warms your heart, of the God who has given you these salutary gifts, to human beings. But do not forget, in addition to being thankful toward men, to be thankful toward nature. Do not forget the wine is the blood of the plant, that the flour is the meat of the plant that has sacrificed itself on behalf of your well-being! Do not forget that the plant represents the essence of nature for you, that it contributes to your pleasure without any self-interest. So do not forget that you owe thanks to the natural quality of bread and wine.” (Feuerbach, *Das Wesens des Christentums*, Part 2, pp. 512 and 652)

Eating and drinking belong to the essence of the good life. They are thus blissful activities, as long as they are accompanied by respect for the processes that precede these. We enjoy in full only when we know that the delicious steak comes from a cow that enjoyed a good life.

Figure 2. Relationships between eating pleasure and animal welfare

10.6 Individual rights and responsibility

We live in a consumer society in which the opportunities for consumers to impact food production are greater than ever. In Foodland, business and romantic trends are sometimes at war with each other, sometimes at peace, but constantly interacting. The politically conscious citizen-consumer is not hostile to market thinking and instead fits well within a socio-culturally colored view of the market. Markets only exist owing to institutional arrangements, which in turn are impacted by the public debate. This impact – often deep into the chain – gives consumers the possibility to accept responsibility for the production processes.

Taking this into account, I have examined the moral role of consumers into greater detail. Pluralism rules also in the realm of nutrition; lifestyles as well as taste and food styles are evidence that the time of the uniform diet belongs to the past. The rights of voice, entrance, and exit discussed earlier apply to this as well. But not only rights determined the good life. Autonomy belongs to the good life, of course – but the same applies to other values, such as humane treatment of nature and the production processes that lead to nutrients. What it ultimately comes down to is the good life and the question what kind of people we want to be in the twenty-first century, how we want to position our bodies between society and nature. For that reason a reassessment is needed of the traditional views of the duties and responsibilities of consumers, as those were conceptualized in the past in terms of gluttony and the enjoyment of food.

In the past, when it was said that people behaved in an irresponsible way with regard to food, this was generally intended to refer to gluttony on their part. The conclusion that some people are gluttonous generally has a clearly ideological character; it introduces a we versus they distinction and leads to stigmatization. The accusation of gluttonous licentiousness always works like a boomerang; it strikes back at the accuser. For the accuser too must eat, as eating is unavoidable.

I therefore plead for a twofold reformulation of the sin of gluttony. In the first place, away with sin! For the enjoyment of the body must come first. I do not plead for a body culture with extreme attention for mouth, intestines, and healthy bacteria. The body is not a vessel that is filled from above and cleaned from beneath. I do not plead for a regime of the stomach, which generally implies that only health is considered, and not the enjoyment. I plead for enjoyment on the basis of quality and respect for everything that contributes to a successful meal.

The measure of enjoyment lies in principle in the enjoyment itself. Eat and drink so that you can enjoy tomorrow refreshed and rested. If you don't enjoy with moderation, that is regrettable (hopefully your immediate surroundings will support you in abandoning the lack of moderation), but sinful it is not. The Land of Milk and Honey, of the full enjoyment of delicious food, is still a delicious fantasy, but there is nothing wrong with this fantasy. A cornucopia of delicious food and drink, self-made or presented by loved ones, is one of the most wonderful things on earth. Really, it would be sinful not to enjoy those delicious things, which you can only enjoy in bodily unification by consuming them.

In the second place, there is the concept of gluttony as a sin with a capital S. Gluttony is only a sin when it involves a lack of respect for the life processes that precede eating. There is much that must still happen in our society before such respect has really taken institutional shape. That is what chapter 11 is all about.

CHAPTER 11

THE FUTURE OF NUTRITION AND AGRICULTURE

*Eat fun, have joy,
Drink delights and tasty shapes,
Sense good smell and smell sense in food,
Swallow the shallow, dip the deep, and mouth the fresh!*

11.1 Three challenges

The previous chapters included a discussion of the three challenges that nutrition and agriculture are faced with, and that present us mortals with great ethical problems. We are talking of the union of technology and standards, dealing with the pluralism in food systems, and bridging the gap between consumers and producers.

The first challenge is the selective embedment of technological processes within a normative context. Whether we are talking of the treatment of plants or animals, of physical health in the western world, or of starving farmers in underdeveloped countries, in all these situations we are challenged to adapt our societal standards and to shape the technological processes through interaction with normative learning processes. Directly in line with this we see the responsibilities of the food industry and nutrition experts shifting, in response to new practices in the food chain.

Second, our world is increasingly confronted with the sociocultural aspects of nutrition and agriculture and the consequent pluralism, as evidenced in different agricultural and nutritional systems and styles. Contemporary agriculture consists of at least two global systems. On the one hand, there is a system of monocultural crop unification, where high-tech solutions are developed and tested, as for example in large parts of the US, Canada, Argentina, and China (Huang 2002). In 1996 there were few GMOs in the fields, but by 2002 GMO plantings worldwide exceeded 60 million hectares. The other farming system, which is enormously differentiated, multifunctional, and complex, embraces the cultural infrastructures of mostly small farmers. The two systems are clearly connected by the type of plants that are produced, and the diversity of the plantings creates different ways of life. In direct linkage with these agricultural systems, we see two food styles in the world: one where consumers eat in order to live, and one where they live in order to eat. Individual consumers, but also individual countries and blocks of nations are increasingly being forced to opt for one of these systems, whereas a combination of the two would offer the best potential for pluralism. The first system clearly falls short in meeting the demands of consumer sovereignty and of pluralism – in Europe it is under great pressure. The romantic-expressive view, which views pluralism as a great good, also involves the reassessment of the landscape and the related role of agriculture (multifunctional agriculture).

Third, consumers have a new role, that of bridging the gap between production and consumption. While governments and the business community can do much in this regard, consumers must not remain passive. At all levels they must build relationships based on mutual trust, from high to low, from nearby to far away. Only in that way can the adverse effects of the almost unavoidable risks be properly absorbed. The objective must be the mutual interaction between technological processes and new constructive standards, to help us lead a good life with nutrition.

In this closing chapter I will firstly present an overview of the key ethical concepts that guided me in my discussion of the main issues: how to keep animals, how to deal with high-tech nutrition, and what to do with international organizations in the field of agriculture and nutrition that claim to fight world hunger. Next, I will focus on the above challenges by presenting a number of specific aspects of nutrition and agriculture, such as the edible landscape as a link between agriculture and landscape, the role of consumers, and the role of government.

11.2 Key ethical concepts

In chapters 5 and 6 I have developed starting points for a deliberative set of ethics that does not stay on the sideline (calling out that things have gone too far, that technology has to be restrained). What I intended to develop is a set of ethics that is prepared to get its hands dirty in the hard contexts in which values, people, and other living beings are restrained by technology – or instead given the room they need. One of the starting points is that nutrition is an important value for good living, even if not the number one value that nutrition determinists claim. If the time ever comes that taking a pill is enough to feed yourself, life will be that much bleaker, both for ourselves and our social relationships – meanwhile we keep heading in that direction. Since nutrition is so embedded in all sorts of vital issues that are not easily reconciled harmoniously, most ethical issues related to nutrition involve dilemmas, seldom providing a tie-breaking solution. Nutrition is linked to all sorts of fundamental conflicts, both for the individual person and for society as a whole.

I have also discussed the rights to voice, access, and exit that, along with multifaceted debates, serve as the axes along which a deliberative system of food production might develop, taking into account practices, food styles, and other social layers. I have purposely centered the rights around the concept of consumer sovereignty: in other words, the ideal of the emancipated citizen/consumer who knows that he is embedded in contexts of loyalty and friendship.

The right to access means that individuals are allowed access to markets where they can buy their favorite foods (whether those be health food, fastfood, or slowfood). The right to voice means that consumers can let themselves be heard by the authorities within their preferred food segment. The right to exit means that a person is free to leave a segment; in other words, that no excessive costs are associated with, for example, the personal choice to ignore health food and slowfood.

The right to access also means that research into and production of specific foods must be spread fairly (not just attention to products that ensure immediate success).

The right to voice also implies that the food landscape must be impregnated with consumer councils, much more so than until now. The right to exit also means that the mobility between the various food styles will increase. Rights are associated with individuals in their sociocultural context, not with cultures or larger aggregates, for as soon as these groups claim their rights, individual persons fall by the wayside. I have, however, broken the social contexts down into further detail using the concept of practices and their various interconnections. Practices represent the entirety of normative, social, and technological aspects: the hard core of the joint operation of technology and standards. Practices in turn are embedded according to the tripartite society model into markets, governments (decision and standardization processes), and public arenas and institutes of civil society (consensus and opinion shaping processes), both at national and international level.

Practices have either existed since long or have grown recently. Various practices of keeping animals have been around for centuries but are subject to ethical erosion as a result of technological and societal developments, as in the case of cattle farming. Especially in the new practices related to health food, functional food, genomics, and nutrigenomics, there is a notable lack of clear ethical guidelines. Also still lacking is the possibility of public debate regarding the shifting responsibilities.

11.3 The edible landscape in Europe and the rest of the world

An important debate item at this time is the question: what type of agriculture do we need and want in Europe? Approximately seventy percent of the European landscape is presently used for agricultural purposes, but will it remain that way in the future? Both Dutch and European-wide agriculture, and thus the landscape, is under heavy pressure to shift focus towards a fully market-oriented system. In the absence of counterpressure, the landscape will be dominated by intensive agriculture, situated in ten-or-more-story high-rises populated by pigs, cows, and chickens. Streams of foodstuffs flow across the globe, in search of the best paying consumers. Will agriculture still have a local function? Should agriculture continue to exist in urbanized areas? What should citizens/consumers do? Can Europe withstand the pressure of, especially, the United States and refuse American bulk products, while keeping its markets open, leveling tariff barriers, and providing good European – more specifically, Tuscan, Spanish, or Dutch – products?

Let us firstly have a look at what the United States, the champion of free trade and free markets – and fierce critic of the European agricultural subsidy system – does for its farmers. That turns out to be astounding: the US spends 20 billion dollars per year on its farmers, with a maximum of 500,000 dollars per farmer. Out of this, 30% goes to landscape management and 70% to bulk products. Considering this heavy subsidy, we can hardly speak here of a free market. What is more, 15 out of the 50 American states receive some 75% of this amount, with large farmers benefiting the most (see *The Boston Globe*, March 4, 2002 and www.ewg.org). These measures clearly fit within the monocultural agriculture system described in section 11.1.

Compared to the financial support in the US of its monocultural agriculture system, the subsidies that European farmers receive for food production and landscape management are minor. The European situation is also more complex than that in the US, because of the great pressure on land there are many competing claims for space. In addition, the European landscape has great (sometimes too great) vitality, much more so than in the United States. Arguments for maintaining a clear distinction between city and countryside abound. Space for more quiet and a more relaxed pace can best be realized in the rural areas. Farming is closely tied to this, because it requires long-term investments. It involves people who have an interest in breeding animals and in growing and improving plants; this is always a long-term matter. This all calls for local production of foodstuffs, and if the free global market does not stimulate this, then the market needs better regulation.

Maintenance and enhancement of local production is also essential for agriculture to be ethically responsible. As I have argued, farming is never a profession of either this or that but much more a situation of both this and that, involving the landscape, the environment, animal welfare, high-quality products, and good labor relations – a mosaic it is. This makes farming, which might appear simple on the face of it, quite complicated and specialized. Farming means dealing with ethical dilemmas and ethical experiments. I believe that this is unavoidable. But a specialized activity can also seem very natural and spontaneous. In that sense, farming may be compared to playing the violin or any other complicated skill. A good violin player makes his violin sound natural and unaffected, as if he simply picks those beautiful notes out of the air. In fact it is a master at play; we know how much discipline, hard work, and practice have preceded the performance. The same applies for a piece of good cheese or a juicy steak. It is pure nature, comes directly from the cow – but the result of a specialized long-term effort.

As an example, let us have a look at the peat meadow areas, such as can be found in the western part of the Netherlands, in England, Finland, northern Germany, and Poland. Typical features of this type of landscape are the abundance of small islands, the many ditches, the wetlands, some tall plant growth, wooded banks, clumps of polder trees, and plantings for own use. Peat meadow areas can only prevail through the unique, centuries-old collaboration of ruminants and farmers. Without the long-term efforts of farmers and these cud chewers, these areas would turn into impenetrable swamps. Why would one maintain peat meadow areas? Firstly, because people want variety in the landscape instead of a uniform quasi-wild swamp landscape, as many Dutch ecologists argue for. Secondly, many want to accentuate the differences between urban areas and the rural countryside; these must not be erased. For that reason one should aim for compact cities and variation in the countryside. The local environmental and agricultural citizen group Gras en Wolken [grass and clouds], which originated in the peat meadows of the Dutch province of Zuid-Holland (www.gras-en-wolken.nl), has emphasized this time and again. Based on a respect for cultural landscapes, the aim is to maintain the typical features of the local countryside.

Pursuing this line of thought, we should aim in Europe (but also in Asia, Africa, and North and South America) for a cultural-historical main structure that links the main cultural-historical landscapes. Work is already being done to create a main

ecological structure that charts the last remnants of nature reserves and links them, so why not also a cultural-historical main structure? A specific cultural-historical landscape, such as a peat meadow area, is home to certain bird species, specific ditch banks, special cows, and more, which calls for proper management and conservation. Farming that takes this into account implies that farm animals must be able rummage outside and graze in meadows. That is good for the welfare of the animals, but also for the peat meadow areas – and for the esthetic side of the landscape, because appearance also counts. Realistic and dynamic water management is also rightly pleaded for.

We must aim for an edible landscape, one that provides local food of high quality. In my view, an edible landscape is one where citizens/consumers support high-quality food production and are involved in it. To bridge the gap between citizens/consumers and farmers, we must enhance the contacts between urban and rural farmers. Although consumers cannot and need not obtain all of their food from local sources (we rightly want bananas or strawberries in winter), it is very important for them that food is produced in their own region. Only through local control can consumers avoid the one-sided aberrations that have occurred in the past. If all food production takes place in Eastern Europe or in certain Asian and Latin American countries, then Western European consumers have no say over it anymore; grudgingly they may be forced to accept circumstances elsewhere that are unfriendly to animals, humans, and nature. That is why local food production is a must for a consumer-oriented food production system.

11.4 Conscious consumers

The local or regional impact of consumers on food production can take many forms. Examples are: adopting a farm, not just a single cow; placing skyboxes and cameras in stables; having farmers enter into contracts with urban groups for the delivery of goods and services; converting farms into public spaces. The future of farming lies in such new contacts and contracts. The relationship between farmers and consumers must not be left strictly to government regulation, because such regulation will push the citizen/consumer off to the sideline.

Governments must obviously stimulate and facilitate. They should, for example, allow scientific research to be initiated and performed – through regulations that are not unnecessarily complicated – taking cognizance of the wishes of farmers. Governments should also assist farmers to find innovative ways to keep operating and to provide added value. Change and dynamism is needed, whether that be in the Dutch peat meadow areas or in the sawahs of India, Thailand, or Indonesia. We must not stand still and strictly cherish and maintain old ways; we must make use of new techniques.

Wonderful as it may be that government takes action and that scientists conduct research, citizens and consumers must also show initiative and be stimulated. There are far too many consumers who are caught in convenience food and fastfood; they do not allow themselves any time for issues such as food production. But there are also many consumers who sometimes, often even, have had enough of this fast and

tasteless convenience. My guess is that a large minority, some twenty to thirty percent, is prepared to take action to achieve high-quality production, involving something of everything.

In my imagination I see urban consumer organizations entering into contracts with farmers for the delivery of services (a fine landscape) and products (wholesome food). This might involve townspeople assisting farmers on two or three harvesting days, or packages of dairy products and vegetables and meats being delivered. But altogether different channels between farmers and consumers are also possible, such as farmer's markets, video cameras in stables, and all sorts of other things. The customer is king, also of the farmer. The monopoly of the farmer over the land, which seemed so logical, definitely belongs to the past. Farmers must adapt to consumers.

But who are these consumers? Do not believe false prophets who say that consumers only look for convenience, only want to buy cheap stuff, only want to eat, and do want to know. I do not wish to absolve the consumer. Consumers too must liberate themselves from the bondage that holds them in relation to food production. Consumers have been told far too long to take it easy, not to worry about their food. Dutch groups such as Pigs in Trouble and Nature & Environment, British groups such as Ethical Consumption, and the European-wide Slow Food Movement are freeing themselves from this passivity. The image of the changeable consumer who only wants to buy cheap, with the size of his budget as sole motivating factor, is one-sided and hardly true. Look around you and see that people do want to eat in a responsible way. But often, forced by the many hurdles that must be taken in order to arrive at the truth, they simply have no other choice than to head for the discount butcher. The edible landscape is the next proof of the readiness of citizens/consumers to require high-quality food.

11.5 The edible government

In chapters 5 and 6 I argued that an impartial, non-neutral food policy is needed that engages in two forms of consultation in general and specific issues: consensus and opinion shaping processes and standardization processes. Certain issues that are related to principles of justice and public autonomy involve every person. These include safety, health, trust in the food system, equal access to food options, the right to access to the market, the right to exit, and the right to voice.

If a food product is unsafe while it is generally available, then this lack of safety can represent a risk not only for the population group that explicitly chooses to consume such product, but also for others who just happen to come in contact with it. If a food product or its production harms the environment, others will be affected as well. These issues (safety, health, animal welfare, the environment) are general points of attention that fit within a narrow-perfectionist government, because of the fact that they can only be defined in a non-neutral way.

Other issues only involve specific groups; they fall under the principles of the promotion of good living. Health food, for example, is much in demand by certain

groups, and they must have the opportunity to obtain such food in the same way that other groups are able to obtain foods that they want to consume.

These two premises should have consequences for government policy with regard to the decision-making and standardization applying to nutrition. Firstly, the various cultural views of nutrition that are expressed in the food- and lifestyles described in chapter 5 will need to serve as a starting point. Secondly, government bodies will have to determine, on the basis of ethical discussions, compromises, and fair negotiations, what general aspects of these cultural views can count on a temporary consensus. Such consensus will have to cover the principal aspects, allowing for a multiplicity of nutrition views. It would not be acceptable for government policy to be based on a single general view on nutrition, since both the societal trend toward individualization and the scientific trends in nutrition are towards a growing differentiation of preferences in the field of nutrition. A uniform diet applying to every person does not fit within a democratic government policy that takes into account the varied views within society about food diets.

As stated above, the issues of risks to health and safety, to the environment, and to animal welfare have a more general character than the stimulation of a specific nutritional view, even if these issues are not neutral. The related discussions and the decisions with regard to standardization are always the result of temporary compromises between differing views on values that are linked to different lifestyles. This means that decisions about standards on, for example, safety and health may never be the exclusive domain of scientific experts. Firstly, they are always led by implicit value paradigms. Secondly, the perception of safety and health is always an essentially value-driven process.

The considerations, expressed in chapters 6 and 8, with regard to deliberative ethics and politics on nutrition call for attention to a triad of issues: the promotion of a fruitful societal discussion in multifaceted debates, the establishment of contacts between the various views on nutrition that all have equal entitlement, and the availability of means to allow the development of new food styles (right to access).

As to the first subject, governments must act in a regulating way (while respecting the private and public autonomy of citizens/consumers) with regard to the safety of food products, their quality, their accessibility for everyone, and food product information (labeling). In all these items, the trust of citizens/consumers in the food system must not be corroded but instead enhanced. After all, risks that emerge can lead to a lack of trust if government authorities steer and act in an irresponsible and inscrutable manner.

A careful risk policy does not deny risks but shows that their occurrence can be addressed by government and market players without panic and in a trustful way. Distrust on the part of the general public will only be ignited when vehement denials are not neutralized until very late, with excuses and confessions that have no consequences, as happened for years in the BSE scandal in Great Britain. Trust in the food system and in the accuracy of health claims is intrinsically based on social procedures that are transparent and that evidence accountability, meaning that public officials are prepared to accept responsibility and are open to criticism.

As to the second item, governments should not only stimulate research into and regulation of health food, but they should also concern themselves with food

products that belong to other food philosophies. Other food types, after all, are also entitled to access to markets (as long as they comply with general rules regarding safety and health). Organic farm production is similarly entitled to such stimuli (see www.platformbiologica.nl). Interesting new approaches, such as the slowfood movement, which links up with the traditional Mediterranean kitchen, must likewise be respected. This movement is in part a reaction to the fastfood movement that manifests itself throughout the world, pressed by companies such as McDonald's.

The slow food movement falls back on traditional recipes that take much time and apparently provide much pleasure (see www.slowfood.it). At times it operates on the verge of what is acceptable in terms of health considerations and animal ethics. For example, intestines, brains, goose liver pâté, and young songbirds are prepared ingeniously and eaten as delicacies. Just like any other food approach, the slow food movement must respect the framework of safety, health, and animal welfare standards set by governments. But this movement is not opposed to technology, and it manifests a charming mix of tradition and high-tech.

In addition, there is the urban farming movement, which seeks direct relations between urban consumers and farmers. The idea is that city inhabitants invest financially and personally in a nearby farming enterprise. In exchange, the farmer provides weekly farm products and insight into the state of his business. Still, in this pluralistic context there must also be room for traditional mass production.

I have also pleaded for facilitation on the part of government with regard to the peaceful competition between coequal food philosophies, in such a way such competition benefits the food system as a whole. This means that governments must stimulate greater and more systematic contact between consumers and producers. Closing off food chains – which regularly happens on the grounds of safety considerations – hinders such contact and should be avoided as much as possible. Peaceful coexistence can at times take the form of competition, and other times the form of peaceful cooperation. It is essential that the various food views do not cut themselves off from a mutual learning process, but that they work on their strong points through criticism, confrontation, and experiments. Claims that exclude do not belong here: the various food views must consider that, in the field of nutrition, value-driven interpretations can differ.

This fundamental respect for other views in no way means dilution of the claim to one's own right or every claim being relative only. It does not mean that we are urged to see our own view merely as a hypothesis that may or may not be correct. Respect has nothing to do with relativism or relativity, but everything with the insight that others are just as entitled to their interpretation of what constitutes wholesome nutrition. Governments may therefore not choose for a particular nutritional view on the basis of considerations of excellence or perfection. Only reasons that are unanimously accepted can justify a specific choice. Safety and respect for pluralism are among such reasons. In Table 9 below, the various tasks of governments are spelled out, both the general tasks as the tasks oriented towards the actors in consumption and production.

Table 9. Tasks of governments in food policy

General orientation, aimed at justice, autonomy, and trust	Special orientation, aimed at food styles: consumption	Special orientation, aimed at food styles: production
1. Set safety standards and check compliance	1. Provide information about health and safety of each food style	1. Same; inspect safety compliance
2. Set medical, prevention and health standards, also environmental and animal welfare standards; check compliance	2. Promote mix of producers and consumers in public debates and in the food chain	2. Same; set standards and inspect with regard to claims
3. Respect for food styles: allow entry of new food styles		3. Stimulate access for different food styles to markets/chains
4. Promote peaceful co-existence of food styles		4. Promote peaceful co-existence

11.6 Good living is eating with moral dilemmas

Food is pleasure, and taste cannot be prescribed. But we can argue about taste, and the various food styles can at least try to regulate their boundaries in a peaceful way. The three types of rights that are situated in public arenas – both local and international – and in the practices of the food chain can lead to food being tastier, healthier, and safer as the gap between producers and consumers is bridged.

In chapters 2 and 7 I have pointed out that even reasonably intelligent people such as philosophers can allow themselves to be fooled into thinking that the best foods come directly from nature. This dichotomy of natural = unprocessed versus unnatural = technological food results from the gap between consumers and producers of food, a gap that can only be bridged when consumers ensure that they are better informed about the complexities of food processing. Good living means

eating with moral dilemmas. Ethically speaking, we will have to get used to a pluralism of lifestyles and foodstyles, and we will have to aim for coexistence of foodstyles within a context of minimum standards for safety, health, and good production and consumption. By taking this approach, we do not exile consumers to the Siberia of market and science, and we do not lock them up in reserves of confined local eating cultures. The deliberative ethical view starts out from the cultural embedment of individual persons without condemning them thereto.

Enjoy your food! And discuss your favorite way of eating with farmers, shopkeepers, cooks, restaurant owners, your family doctor, and producers!

APPENDIX 1

DIFFERENCES IN RISK PERCEPTION AND VIEWS ON FOOD SAFETY

Introduction

It seemed so easy, making a risk assessment. A *scientist* calculates the probability of a disaster occurring, estimates the costs of the disaster, and multiplies the two. That yields the risk level of a future disaster. A *producer*, by applying risk-benefit analysis, where costs and benefits are likewise expressed in monetary terms and compared, can decide whether a product or innovation should be brought onto the market, where a *consumer* can buy it. If necessary, a group of consumers can be asked to prepare an estimate of the monetary costs and benefits of the product (and so they are supposed to express their particular ‘willingness to pay’).

But it no longer works like that. In the first place, risks must be defined and then positioned somewhere between what we accept as inevitable and what must be prevented at all (or extremely high) costs. This definition is culturally determined. Roquefort, for example, is not allowed in the US as a raw-milk cheese, but in France it is considered a cultural good and therefore accepted despite the risks. In reverse, in a culture where science has a high status, the use of hormones and GMOs in food is considered scientifically and therefore socially acceptable. In the US you need to wear a helmet when riding a bicycle, while in Europe no helmet is required, since bicycling is considered an everyday activity. Secondly, risks must be accepted by members of society, both individually and jointly. The issue is then no longer one of costs and benefits, but of mutual respect of rights and of achieving trust and reasonable agreement among members of society.

In this essay I will consider the controversies between scientific and cultural risk perception, and then investigate how perceptions of risk come about. A key element is trust in the authority that defines and sets out the risks for policy purposes. Cultural background, basic assumptions, expectations, and lifestyles play a major role here. Finally, I will show that, in ethical terms, pluralism in risk perception is permitted and, to a certain extent, even mandatory. Consumers not only have money to buy products, but they hold varying views about freedom of food choice and diversity of food supply. Therefore, we must get away from a policy of strictly uniform risk warnings. I will also argue that, in democratic societies, legitimately developed risk definitions of consumers are entitled to recognition, and that such definitions cannot be set aside by scientific, free-market, or utilitarian considerations (such as cost-benefit analyses prepared by others). I therefore plead in favor of an approach based on rights and against the utilitarian approach to risks that is so often applied.

Different risk perceptions and risk assessments

The scientific community, government policy, and the general public hold quite different views and definitions of risks, and of how they must be estimated and handled. A dominant approach is to apply a calculation of probability times costs, including a cost-benefit analysis. But even within this approach there is disagreement about the definition of risk. In American food safety policy, the fundamental role of molecular biological science in resolving societal controversies related to risk translates itself into what is called *substantial equivalence*. A food product is only considered to involve risk with regard to the one ingredient where it differs from a similar but traditional food product. A food product is thus never tested in its totality, but only with regard to that one ingredient.

In European policy, another type of risk assessment is gaining ground. The *precautionary principle* (meaning that uncertainty about the safety of a product does not mean discharge from the obligation to act) is increasingly applied here, under the impact of the ecological sciences (Amendola, 2002). In the various European countries, with their different cultures, the accent sometimes lies on substantial equivalence, at other times on the precautionary approach. Each of these two scientific approaches has its advantages, but they also present problems. Scientists tend to emphasize the microbiological risks (Freudenburg, 2001). Experts in the field of zoonotic diseases thus express their concern about the fact that, in countercultural (read: organic) production processes, all sorts of pathogens (such as *Campylobacter*, *salmonella*, and *toxoplasma*) are often uncontrolled, in contrast to conventional cattle farms.

For consumers the issues likewise differ. Depending on the culture, not only hard data play a role in the acceptance of scientific information about risks, but also the trust in the person who prepares and presents the data, plus the climate between the recipient of the information and the presenter. Cultural background, assumptions, expectations, lifestyles: these all play a major role. Most people will continue to barbecue, despite the fact that scientists keep warning against acrylamide, because you'd be a real fuss to call off a pleasant eating event for that reason. It is impossible to segregate the data and the message from the broader value context, because it affects both the producers of the data and its final assessors, namely the general public and the political authorities.

Non-experts see different risks than experts. They take much greater notice of potential risks to biodiversity, of additives, and of the limitation of food choices. Sometimes they get recognition for this. A good example is the history around the introduction of GMOs in Europe. An EU commission consisting of health experts initially ruled that genetically modified foods did not involve health risks. But various parties including Greenpeace alerted to other risks than those that had been investigated by the experts, such as biodiversity problems. These risks were ultimately recognized by the EU to be just as legitimate. This is not the only situation where non-experts won their case, but generally speaking they are not taken seriously in risk assessments (Slovic, 1993).

Based on the level of trust in the messenger that the public has, countercultural forms of production, which meet higher animal welfare standards, may be

considered less risky, also with regard to health. Nutritional risks are often compared in scientific literature with other risks, but it is clear that the general public does not see it that way. The public regards nutrition as a unique aspect of life that applies every single day. Comparison of food-related risks with those of bicycling, car driving, or mobile telephones is therefore meaningless to non-experts and often considered ridiculous (Miles & Frewer 2001). Public perceptions of food safety are much broader. Food risks are not only mentioned among the usual consumer concerns (such as health and mortality, future generations, or the environment), but also among aspects that cannot be defined in terms of physics, such as personal food choice and the right to diversity in food. To the lay public, food safety is not just a microbiological issue; it also involves the entire set of values that relate to autonomy in food choice and to a broad supply of foodstuffs.

This broadness has a reason: by definition, the public is always lagging in information or is even kept uninformed. That is why factors such as lifestyle and trust in the reliability of people play an important role. Also the media contribute to the buildup, maintenance, or breakdown of trust. And think of history, as specific events are stored in our collective memory, giving direction to future assessments. Risk evaluations related to nuclear energy are an example (think of Chernobyl). But also other technological disasters (e.g. Challenger and Columbia), and recent events such as the premature death of Dolly (cloning and ageing are risks that lay people feel directly affected by) impact our assessment of risk. As to food safety, issues such as the sordid cover-up attempts in the UK of the mad cow disease and the aggressive methods of Monsanto to get GMOs accepted have contributed much to a confidence breakdown. The actions on the part of Greenpeace (which was the first to hammer on the potentially negative effects for the environment of GMOs, while official scientific reports ignored these) and of Friends of the Earth (which started the Starlink corn affair rolling in the US by testing store-bought tacos) have likewise undermined the level of trust in the official sciences. Once again, collective experiences from the past cannot be reflected in cost-benefit analyses.

The cultural background of our collective memory also plays a role in the definition of risks. In the UK, the BSE affair left such deep wounds because the British have long regarded beef as a national icon (cf. “beef and beer give heavier blows than soup and roasted frogs”, in Rogers 2003). In Italy the pasta culture lies at the core of a very national view of eating, and of eating around la Mamma: ‘dove ce Barilla, ce casa’ (where Barilla – a well-known pasta brand – is, is home). Foreign eating habits and products are thus slow to penetrate into Italy, as they are often regarded as risky and unsafe (Bayley 2002).

The debate about the definition of risk and food safety

The differences in perception, among scientists as well as between scientists and lay people, lead to deep conflicts at times. These conflicts are exacerbated when food manufacturers try to sell a certain product image that turns out to be colored. Scientists tend to call the general public’s perception irrational and extensively criticize the lack of logic and information that lead in their minds to strange risk assessments on the part of non-experts. Calling these ideological and cultural backgrounds irrational and claiming that science transcends these backgrounds does

not evidence a great insight. Scientists are also led by ideological and cultural prejudices, but worse, such assertions wash away the basis for trust and make communication impossible.

The table below presents the various ideological fronts about risks and food safety. What government officials, scientists, the general public, and producers think about each other with regard to food safety leads to interesting reflections that often mirror each other. The table should be read from left to right: so, in the first row, governments have an opinion on their own functioning, on scientists, the general public and so.

Table 10. Ideological fronts about risks and food safety

	Government	Scientists	General public	Producers
Government	Regulates at distance	One-sided	To be protected	To be regulated
Scientists	Short-term success	Sole source of knowledge	Irrational	
General public	Slow, only reacts to media	One-sided (tunnel vision)	Diverse	Profit-oriented
Producers	Exacting regulator	Too fussy	To win for themselves	Against profiteers

The literature about risk perception hardly mentions the broad concept of risk and food safety that many consumers apply. In general, researchers point out that consumers recognize and assess risks only in a routine way (Böcker & Hanf, 2000, p. 10). Typical comments stress the limited rationality of consumers and the partial information on which they base their assessment of risk, as well as level of trust that they reserve for those informants that are relevant for them. Such comments fail to mention, however, that other than purely technical factors about illness or death are involved in questions of food safety, such as food diversity and respect for food choice. This last item refers to the circumstance that the market is open to different food styles, such as organic, traditional, fast-food, and cosmopolitan (Korthals, 2002).

Despite these differences, I do not consider it meaningful to speak of a culture of scientists versus that of lay people (such as Marion Nestle, 2003, does). Firstly, scientists are also non-experts when it comes to fields outside their expertise, and, secondly, the views and underlying values and behavioral patterns of lay people are quite diverse. Different accents are laid depending on population group, lifestyle, and age. Young parents are more concerned about the effects of nutrition on their children, while older people are more inclined to focus on free choice and diversity. Adolescents lay great emphasis on free choice, and social climbers have high regard for fast-acting and decisive entrepreneurs. Risks are also defined differently, depending on the social category to which a person belongs, such as young children, pregnant women, elderly people, and single men. Perceptions of risk always clearly

differ between women and men, since men are willing to accept higher risk levels than women (Rozin et al., 1999).

Five issues in present-day European food safety policy and technology

Current food safety policy, which focuses fully on total or at least optimal food safety for everyone (HAACP, Hazard Analysis and Critical Control Point), is characterized by a number of issues.

Firstly, it assumes a level of food safety that applies to everyone, whereas it is becoming increasingly clear that consumers can differ greatly in medical risk profile.

Secondly, technological and societal developments in the chain (such as internationalization) lead to new food safety risks, thus calling for a more dynamic and pro-active approach.

Thirdly, and in response thereto, technologies such as genomics and biological information science are enabling scientists and policymakers to predict specific risks and develop early-warning systems in a more focused way.

Fourthly, food safety issues are directly linked with other socio-ethical issues in the food chain, such as sustainability, animal welfare, human health, and respect for small farmers in developing countries (increasing the requirements here can drive farmers to the slums). Technologists make implicit assessments among the various ethical issues (which often compete with each other) when they decide that a particular risk level is acceptable, but the reductionist approach is not explicit in this.

Fifthly (and directly related to the fourth issue), many consumers have integrated or holistic views about food safety and risks (rather than reductionist views), which sometimes lead to total distrust with regard to official food safety statements. Consumers also differ greatly in the accent that they place on the various ethical questions (thus applying different risk definitions or risk profiles) and on the level of risk that they tolerate (risk-avoiding or risk-seeking, i.e. the formal risk profile).

These five issues call for a safety policy that differentiates, that is preventive, international, and chain-oriented, that inspires trust, and that systematically responds to different groups of consumers with regard to their medical, content-related, and formal risk profiles. The central question then becomes: are consumer groups entitled to their own risk perception, regardless of what science concludes?

Respect for and acceptance of differences in risk perception

How do we deal with differences in risk perception in an ethically responsible way? If scientists were indeed the only group that could assess risks, then respect for other risk perceptions would be unnecessary and even interfere with good policy. At the most, the specific ideological sensitivities of lay persons would have to be taken into account during risk communication. But as I have pointed out, the situation is different. Within the sciences themselves, various risk definitions are used, and, in a number of crucial areas, the viewpoints of non-experts have had major corrective impact on the definition of risks and food safety.

Considering this, it makes sense to demand respect for views about risks that are not based on science. Respect for differences between risk definitions has its limits, however. Is every opinion legitimate, even if it clearly harms others? Does anything

go? How do we ethically prevent a producer from appealing to his right to a personal definition of safety and risk when offering a product that is clearly unsafe? And how do we prevent a protest group from calling a safe product unsafe only in order to trip up the producer? To what extent are individuals and collectives entitled to their own views on risk?

In broad terms, there are three approaches in ethics that can serve to answer this question. These are utilitarianism, the deontological ethic, and the deliberative approach. According to the utilitarian or consequential-ethical perspective, an act is proper if its effects are good. This perspective focuses on the consequences of a certain action. The consequences must be evaluated according to the principle of the greatest possible well-being. Jeremy Bentham (1748-1832), the patriarch of this approach, speaks of “the greatest good for the greatest number”. If the greatest possible well-being is promoted, also if it does not apply for every person in the same degree and some people might even be worse off because of it, then the action can still be considered proper if the majority is better off.

Utilitarianism thus leads to a consideration of consequences (and only indirectly of principles). It comes close in that way to the cost-benefit analysis as advocated by certain economic movements. There are many variants of utilitarianism, and, according to one variant, principles and general rules (as laid down, for example, by law) are definitely meaningful, because they reduce the risk of a breach of well-being. However, utilitarianism does not take fundamental rights, principles, or obligations into account in a principled way. In general, utilitarianism is permeated by the idea of not causing damage. It is a negative approach, where the main effort goes into limiting the negative consequences of an action. For food risks, this means that lay persons cannot derive rights from their own risk definitions and do not need to be consulted.

Secondly, there is the *deontological approach*. This strongly emphasizes principles and obligations, in the assessment whether an act is correct or good. Well-known general principles are the autonomy of the individual person and justice, in the sense that all persons are entitled to their own share. The best-known representative of the principle-ethical approach is Immanuel Kant (1724-1804). He does not start out by preparing a list of obligations. Instead, he identifies a criterion, which morally acting persons use to judge whether something represents an obligation. This criterion he calls the categorical imperative. It reads as follows: “Act only according to the maxim about which you can wish that it becomes a general law.” In other words: can I wish that everyone acts as I now wish to act? For example, if I wish to borrow money from someone without wanting to return it, I must ask myself, applying the categorical imperative, whether I indeed wish that everyone would act this way (borrowing money without ever returning it). The answer to this is obviously “no”, since no one would then lend money to another person anymore.

Individuals can thus demand respect for their personal risk perceptions; collective risk perceptions that are based on individual (equal and just) contributions are likewise to be respected. If a group, based on respect for individual rights, comes to the conclusion that organic products are safe, despite scientific advice to the contrary, then such conclusion must be respected. Scientific advice is then simply

not convincing enough, or the scientists have not done their work well enough.

Next to these, there is a third approach that is less directed at principles, the individual person, and individual choice, and more at the social context, at human solidarity and obligations that have historically grown – in short, an approach that seeks to give an answer to the question as to what constitutes good living in a world full of risks. This deliberative approach takes these insights into account, but it also incorporates aspects of the other two movements, such as respect for autonomy and a certain appreciation of costs and benefits. Individual rights are not, however, considered to possess ultimate value, neither is the cost-benefit analysis. Interests and rights must be made flexible in forms of deliberation, by responding to each other and to the issue to be solved.

In the end, principles cannot help us to resolve dilemmas; they have an analytical but not constructive and synthetic meaning since they are not directed at concrete solutions. Principles operate as heuristics rather than as absolute rules. They help us to look at specific aspects of specific situations, and they focus our attention to specific characteristics. But of themselves they do not cover the entire field of meaningful and productive ethical concepts. In applying norms and principles, we always use the ideals or value aspects thereof, making it clear that other ethical dimensions that those of principles (such as feasibility, lifestyle, and limited rationality) are similarly relevant. On top of that, the ethical issues in nutrition are so complex and interwoven with so many different matters that searching for universal and exhaustive principles is likely to lead us down the wrong path.

Based on the deliberative ethic, I see two main issues. Firstly, individuals and the general public must have trust in the nutritional system that is managed by experts. Trust does not, however, come about strictly by providing information or by issuing principles. Rather, it grows on the basis of transparency, openness, honesty, and accountability forums, in other words, the presence of public spaces where responsible persons account for their decisions. Tackling an ethical dilemma is a process that requires compromise, where not only principles but also values, biases, and ideals play a role. It implies attention to the social and cultural contexts within which ethical problems occur. The strong emphasis in the deontological approach on the rights and obligations of individually acting persons ignores the fact that rights have ethical and factual limits. Consumers and producers may well be entitled to information, but they cannot search out, check, and monitor everything. It is impossible for the average person to determine which information is correct and which is not, which claims are justified, and what consequences certain food products have. It is specifically in light of the limits to the autonomy of consumers and producers that confidence-inspiring, impartial, and independent institutions and forums are needed to assist consumers and producers. However, these are generally lacking. Risk assessments based on deliberative analysis are therefore limited when it comes to individual rights and collective rights derived from these. These boundaries are provisional because compromises must still be made about what constitutes an acceptable risk, about the way risk is defined, and about how it is managed. But this must take place in open and reasonable discussion, without exclusion of certain themes or parties, and without secret agendas.

There is still a second point. Individuals differ greatly from the contexts within which they live, so it is quite possible that a particular person can handle greater risk than another, both in physical and psychological terms and in terms of ideals. As it is becoming increasingly clear that a general risk assessment can no longer be given even in the science of microbiology, we see both a social and a scientific development coming together. General risk assessments are no longer being accepted. A risk message should no longer say that a certain substance presents so much chance of a certain illness, but that a certain substance presents so much chance of a certain illness for specific populations. People who wish to run less risk, or greater for that matter, can thus accommodate themselves. Personal perception and free acceptance of the risk type can then be taken into account. This excludes the possibility of abuse of the respect that should consequently be given to other views of risk, for such respect implies tolerance for every possible definition of risk, even if it is ultimately harmful.

Conclusion

The definition of food safety and risk differs by culture and age group. A certain product can thus be identified as hazardous and unsafe within one culture, while this is not the case in another. This cultural multiformity of scientific and lay perceptions of risks and food safety leads to problems when everyone can appeal to the right to a personal definition of risk. In this essay I have pleaded for a deliberative approach to risks, in which public perceptions are provisionally respected while being subjected to testing in public debates. The concept of the autonomous consumer has not been thrown overboard in this approach, but it has been stretched somewhat: freedom of choice is shaped within a social context and is thus dependent on meanings, cultural paradigms, and forums. The communication process between the parties involved calls for mutual trust, based on transparent control mechanisms. The principles of respect for rights and obligations serve in this approach as heuristic tools.

Secondly, the communication of risk situations must be much more specific, identifying that a certain substance has a certain effect on certain people. On the other hand, risk definition and communication must also take social and cultural aspects into account, such as autonomy in food choice, food diversity, and the potential consequences for the environment and future generations.

Lastly, the financial and commercial background of risk assessments must be clearly identified. Risk benefit analyses may be useful (just like studies based on willingness to pay). Much more valuable, however, are attempts to bridge the gap between producers, scientists, and consumers through intensive mutual involvement.

APPENDIX 2

NEW PUBLIC RESPONSIBILITIES FOR FOOD SCIENTISTS

A say for our mouth and new tasks and responsibilities for food scientists

“What your genes want you to eat”. This was the title of an article in the May 4, 2003 issue of The New York Times (May 4, 2003) on the ways in which the food sciences will influence food and drug choices of consumers and patients in the next decade. The author, a journalist by the name of Grierson, states that our diets and prescriptions will in the future be customized; to achieve this, consumers and patients will need continuous feedback between screening agents and food and drug consultants (such as general practitioners and dietists) for continuous update of their gene passports or health cards and for relevant advice in response to new food products, drugs, or scientific developments. The message of this journalist does not differ from other, less popular writers on the subject: if consumers are indeed health-driven and want to postpone death, then they must allow their genes to dominate their daily lives. That means allowing interaction between genes and lifestyles, even allowing life scientists and technologists to play a dominant role in their lives. The term “gene” is indeed a metonymical expression of the whole life science system and industry. An issue that the journalist does not address is whether consumers will have a say in future in what they put into their mouths and the related responsibility of life scientists.

To tackle these questions, I will first outline the main developments in the food and life sciences during the last decade, and then discuss some aspects of the traditional concept of responsibility, which stresses the causal connections between agent and outcome. I will argue that, from a pragmatic point of view, the concept of different practices can help in delineating new gray zones between conducting research, rendering advice, screening consumers and patients, consulting the public, and prescribing and selling food stuffs and drugs. Moreover, I will make it clear that professional scientists have a public responsibility; they must build new Chinese Walls to raise the level of trust between themselves and the general public.

New developments in the life and food sciences: genomics

Although it took some time, the discovery of DNA by Watson and Crick in 1953 has significantly changed the disciplines of biology, medicine, chemistry, food science, and agricultural science. Genomics is the broad label that covers the integration of these fields into the new discipline of the life sciences. Genomics describes the integrated application of biochemistry, microbiology, and process technology for the purpose of turning the potential of micro-organisms and cell and tissue cultures to technical use. Two key components of modern biotechnology are genomics in the narrow sense (the molecular characterization of organisms) and bio-informatics (the assembly of data from genomic analysis into accessible forms). Because of its enormous potential, genomics (along with nutrigenomics) is regarded as one of the

key sciences and technologies for the coming decades to improve food availability (mostly attributed to developing nations) and food quality and safety (attributed to the industrialized world). It can deliver both products and methods, for example for the analysis of food safety by delivering fingerprints of genetic activity in products and in humans.

With genomics and nutrigenomics, the sharp distinction between food and medicine falls apart, and a gray zone emerges between the two. An understanding of plant biochemical conversion processes, along with knowledge of how humans metabolize foods, will bring prevention to the center of medicine and food sciences, shifting the emphasis from health care to healthy living. Food acquires the characteristics of medicines and determines what kind of medication is necessary; medicines become food or influence food intake. The new gray zone where healthcare and nutrition meet is the battlefield where social, economic, political, juridical, educational, and ethical problems are emerging, a battlefield that requires constructive social and scientific thinking, intensive public debate, and corresponding technologies to come up with solutions.

As with every new science and technology, many people see benefits such as cost reduction for producers and healthier products for consumers. However, aside from cost reduction or higher prices, the new technologies may also involve both tangible and intangible costs. These costs may, for example, consist of more expensive materials, a higher level of skills needed to manage the product, or a higher risk of product failure. Genomics calls for cooperation between scientists and the general public, with successful cooperation depending to a large degree on the way citizens/consumers are able to cope with these new trade-offs in institutions (some of which are to be newly established). For food researchers, policymakers, the food industry, and retailers in the genomic and nutrigenomics sector there are many uncertain factors: the knowledge claims are uncertain, and different types of risk are involved. This requires risk analysis and precautionary measures. The perceptions of consumers are unclear, and the economic prospects (costs and benefits) are uncertain.

For researchers in the field of genomics and the life sciences, the customary distinctions between basic applied science and technology do not exist anymore (if they ever existed). One only has to glance through journals such as *Trends in Food Science and Technology* or *Theory in Biosciences* to see that many fundamental articles directly concern the preservation of food, the relationship between genes and obesity, or nutrient cycling and sustainability; in other words, fundamental social issues are discussed. Before the DNA revolution took place, food scientists did research into the extent to which certain ingredients were poisonous, or into the preservation of food. Nowadays, however, the life sciences are expanding into the food choices of people; they have large impact on a person's daily life, that will be increasingly organized along the networks of a gene passport or health card.

For professionals the boundaries between industry, university, and government policy are blurred. They switch easily from one sector to another. Regulations and activities that used to exist in one, are now taken over by other sectors, like the patent system or advisory activities. For patients and consumers this makes it very unclear who is speaking, for example when consulting an expert: is he or she

employed by industry or somehow connected with a government agency that has nothing to win or lose? Famous cases involve the role of scientists in the anti-smoking debate or, more recently, the role of food and health scientists in the sugar debate raised by the World Health Organization (Guardian, April 21, 2003). Other issues that are covered in the quality press are the relationship between screening agencies and the therapeutic products that are prescribed and sold (Sciona) and the management of bio-databanks (Bulger, 2002).

It is hardly necessary to refer to famous disasters in science and technology, such as the nuclear energy plant in Chernobyl, the Challenger and Colombia space shuttles, the production and sell of GM maize by Monsanto, or the extensive use of X-rays in medicine during the 1930s, to become pro-active in the regulation of responsibility and accountability with respect to new developments. Although, historically speaking, the first reflections on responsibility refer to disastrous consequences and their punishment (John Stuart Mill; Kenneth 2001), nowadays we have a more mundane conception of responsibility, which stresses the potential implications of actions and technologies and not only the negative effects (Resnik 1998). Who is responsible for the widespread implications of life science technologies for individuals, groups, and social players vis-à-vis these new developments? To establish all the links in the life sciences network, it is necessary to assess these different factors and to establish trust between the various stakeholders, and with consumers in particular. However, the various stakeholders do not put the same emphasis on these issues, their approaches in solving the issues differ widely, and so the dance of evading responsibilities continues. Companies state that they only respond to what the market and consumers want them to do; life scientists argue that they only want to conduct research and do not determine profit strategies; politicians say that they are advised by scientists and have privatized these developments at the request of citizens. I consider it better to step outside this dance, and to look beyond the parties to three impartial conceptions of responsibility and accountability: the causal theory, the role theory, and the pragmatic theories of responsibility.

Causal theory of responsibility

According to the causal theory of responsibility, responsibility is associated with the causal relationship between an individual person and his activities. Only when a person is in full control of the circumstances, of his agency, and of the activities that he sets in motion (thus when the acting person is free), can he be held responsible. Surely, it would be unfair to make people responsible for events when they do not have control over the circumstances. According to this view, if a scientific invention is stolen from a laboratory and misused, the inventor cannot be held responsible. As a matter of fact, however, many of the acts that we perform, we do not control. There are many circumstances as well that we do not control, that we at least do not decide about, and that determine our decisions.

There are several approaches to this traditional philosophical issue of freedom and determinism. On the one hand, there is the determinist approach, which denies all agency (Pereboom, 2002); consequently, talking about responsibilities is

superfluous. On the other hand, there is the voluntaristic view (as in the existentialism of Sartre); and thirdly, there are several approaches that stress the compatibility between freedom and determinism (compatibilism). Kant's compatibilist point of view emphasizes the agent point of view next to the deterministic view. He maintains that freedom and determinism are ways of reconstructing sequences of events. From the deterministic point of view, we organize reality according to relationships of causes (physical and otherwise) and effects, with humans merely being effects. From the perspective of freedom, we view moral agents acting as free causes according to moral relationships between intentions and acts (according to the laws of freedom). What this perspective does not take into account, however, is that intentions are shaped by cultural and social circumstances as well, that they are neither totally in control nor totally out of control of the agent. Actions can be caused by something beyond our control, while we can still be in control of them. This makes the perspective of freedom and responsibility more complicated. In fact, it urges us to reconstruct the distinction between freedom and determinism not as one between two different and excluding viewpoints, but as a gradual distinction: an agent can be more or less free, more or less determined.

Role theory of responsibility

Linked to this complexity is the issue that the description of acts generated by human agents can vary. Suppose I intentionally open the outside door of my house, simultaneously detect a prowler waiting in the dark, hurt the kid that was just trying to open the door from outside, and alarm my partner who is sleeping upstairs (what Feinberg calls the accordion effect). The social contexts that shape actions and their interpretations are not taken into account by the causal theory of responsibility. In daily life we normally apply a more social theory of responsibility, with causality being less important. When we hold parents responsible for the actions of their children, drunken drivers for their risky behavior, and politicians for their civil servants, this has to do with our expectations of the parental role (care) and our assumptions about driving (safety) or political roles (stewardship) and not with causal responsibility or lack thereof. According to the role theory of responsibility, we allocate responsibility to individual persons depending on their social roles and the social contexts, and not only depending on the extent to which they actually cause certain events or have a conscious say about the occurrence of these events. This allocation has everything to do with the normative structure of our societies and is not a merely empirical fact. However, the social contexts do not supersede causal accounts but complement them. Intentionally, negligently, or recklessly causing harm by conducting certain types of research (remember the Tuskegee Syphilis Experiment) is still covered by this concept of responsibility.

There are several issues that make role responsibility questionable. First, take the comment of the Challenger director to the engineer who warned about the poor sealings in the rocket that ultimately caused the catastrophe: "Take off your engineering hat and put on your management hat". It is often not clear what one's role is as a life scientist or engineer in an organization or society, and I would even

argue that certain role aspects (like safety) should override other aspects (like profit or management). A second issue is that, even in situations where the practice of science and technology is well organized, there is still the issue of the goals of the organization, its research agenda, its research priorities, and its research design. Scientists have a responsibility to society at large as well, one that transcends role responsibility and harbors on public responsibility. We only need to recall the appeals of Einstein and Oppenheimer to ban atomic bomb testing, or the actions of Rachel Carson and Barry Commoner in the 1960s about the banning of DDT and in favor of biodiversity, to recognize that scientists have a certain responsibility towards the common good, a responsibility that transcends their specific role when working in a certain organization and doing their job (Shrader-Frechette 1994). A third issue is that roles are subject to change, along with the practices that they are part of. With respect to life scientists, when their practices turn to social life as they become involved in gene passports or health cards, their social role changes accordingly. Here again there is no causal responsibility, but at least a shared responsibility for large-scale effects. But to what extent and in what measure?

Pragmatic theory of responsibility

In several publications we have presented a revised version of pragmatic ethical theory, in which we first stress the three anti's of pragmatism: against foundations of moral guidelines in metaphysical or other entities; against common dualisms like nature and culture, citizen and consumer, mind and body, science and ethics; and against fundamental doubts à la Descartes (doubting the validity of everything) or total societal critique (doubting the social system).

The first "anti" means that I am skeptical of general principles such as the four justified by Beauchamp and Childress (the principles of autonomy, justice, maleficence, and beneficence). Only as heuristic guidelines can they play a role in ethical reasoning. Secondly, we stress the importance of values in a globalizing world, such as democracy and cooperation, in other words, peaceful ways of managing ethical and other normative differences. Finally, we delineate the concept of co-evolution of technology and ethics, in the sense that new technological developments are seen as intriguing challenges for common morality frameworks; they do not function a priori as impulses to draw boundary lines or erect red stop signs. Co-evolution of technology and ethics makes it clear that both change when reacting upon each other. In that sense, technology has a broad ethical component, and ethics is intrinsically connected with technology; neither can be held constant and unchanging (Keulartz et al., 2002). However, we should be wary of ethical colonialism, in the sense that ethical problems are considered to be rampant, with the consequence that scientists are overburdened with all the moral problems of the world.

In analyzing urgent ethical problems (problems that hurt, not those that may arise but are rather far away or pure science fiction), I use the concept of practices, in particular their interrelationship and their relationships with public debates, consultations, and decision making. This concept is useful because it clarifies how technologies are themselves part of social practices that are applied to other social

practices. Embedding life sciences and their corresponding technologies in social practices means therefore to open up the social practices of science to the social practices to which they are applied and looking for positive connections between these practices and negative, controversial encounters. For example, when genetics started to use new technologies to predict and treat certain diseases, such as Huntington, patient organizations, hospitals, clinics, and advisory agencies changed correspondingly, as well their standards of excellency and broader norms.

In searching for compromises and new possibilities (scenarios), we pragmatics try to re-open the frozen frontiers between practices. Practices have values and goals, like standards of excellence, as well as concrete products that are measured against these values and goals. When practices change, the norms change as well, which is not only of interest for the practices involved but for society as a whole. That calls for public consultation.

Recent developments in the life sciences put them into new constellations with other practices of health care and food, in that they change these practices and require that many traditional standards of excellence and broader norms should be made subject to revision. Because of the huge investments involved, private-public cooperation (“triple helix”, Etzkowitz 2002) is growing more common. Regulations that are maintained in the private sector, such as patents, are becoming common in the public sector, including the universities. Other regulations and attitudes are moving from public sectors to semi-public sectors. Health diagnostics, health screening, and health consulting, which used to be performed only in the health sector, now are also regularly performed in the food sector, even though the necessary moral and legal regulations are often lacking.

Two issues are in my view of utmost importance to be discussed by professionals, both in university and in industry settings. First, there is the topic of research priorities. If universities and their laboratories are indeed so heavily dependent on financial support by industry, who then chooses the research topics and why? Are the illnesses for which cures are sought indeed illnesses that should be urgently treated because many people suffer from them, or are they the luxury complaint of a rich minority? In the ivory tower university environment of the early twentieth century, setting the research agenda was the privilege of peers, but nowadays this is not the case anymore. Do governments decide, is it industry or the scientific community, or is it some unclear combination of the three (Nestle 2000)? Should these decisions be preceded by public debates and followed up afterwards by public scrutiny so that decision makers can be held accountable? What research topics are societal and scientifically relevant, and in what way are they linked to social goals that are thought to be relevant according to the general public? Who decides which alternatives should be chosen from the possibilities, given the present state of the art of the life sciences? What standards should be applied (Kitcher 2001)? Nowadays, these more general moral requirements of responsible scientists, like working for the public good (Shrader-Frechette 1994) are not clear, simply because it is not clear what the common good is in, say, the case of health food or food safety (how much unsafe food is acceptable). Here only public debate and consultation can help both professionals and the public at large to find orientation. The main public responsibility of life scientists in deciding on a certain research

project is therefore not that of giving information on fraud or on discrimination (although both actions are as necessary as ever), but of participating in public debates, giving both information and normative guesses about the possible benefits and detriments of new developments. This activity does not require professional codes but the skills to perform open, honest, and rational debate. However, this can lead to a conflict with the second issue that ought to concern life scientists.

The second implication for life scientists in their new social constellations is that, far more than in the past, they are professionally involved in consulting private persons or private companies, in advising governments and health organizations, in managing data acquired from screening tests and diagnostics, even in proposing new foods or drugs that appear to correspond with the diagnostics. The danger is even of confusing and blurring the dividing lines between these activities. It is so easy when you get your marvelous, expensive diagnostic tool from a certain company, also to prescribe the drugs or foods that are delivered by this same company. But is it in the interest of the consumer and the science system at large? The interests of organizations never fully coincide with the common good. Will the public trust a science system that works where the opposite is naively or intentionally assumed? I do not think so, and the general opinion in most western societies does not assume that the interests of a subsector coincide with societal interests. Viewed in this way, life science professionals should set up Berlin Walls between conducting research, giving advice, doing diagnostics, public consulting, and prescribing foods or drugs. In giving advice to a consumer or patient, the professional must clearly state in advance what his potential conflicts of interests are. I am ethically pleased to see that this is already a common practice in articles in some high-ranking medical journals. In food science, however, it is still very uncommon in publications, let alone in contacts with consumers or policymakers. But this could be done much more radically, in the sense that scientists who conduct research that is financed by industry indeed refrain from giving advice to consumers and from prescribing certain foods or drugs, that they do not participate in public debates, and that all these activities are neatly, physically, and personally separated in the same way that banks and financial investment companies now separate their different activities. Such separation may be referred to as a Berlin Wall.

However, from the point of view of the urgent need for life scientists to participate in public debate and policy types, Berlin Walls are too cumbersome, as they can prevent the necessary flow of information and communication between the various activities. So maybe Chinese Walls between conducting research, public consulting, advising, and prescribing are the better solution from a pragmatic view. It is not forbidden to change sectors, but only on certain conditions, like announcing your conflicts of interest, outlining possible losses when you go along with this particular scientist, and honestly indicating alternatives. For example, in the sugar debate it should be a matter of professional honesty that, when a professional speaks out for the rules of the World Health Organization or against them, he makes his connections with industry and government clear in advance. Also, if a scientist is against regulation of sugar, he should state what alternatives there are to curb sugar intake and reduce obesity. Again, professional codes do not help here, because they mostly deal with the avoidance of harm and with honesty, and not with learning to

find out where these conflicts of interest arise, with the norms of other people such as various consumer groups, and with other ethical skills and competencies. These kinds of skills add to the public responsibility of life scientists, which involves participation in a rational and decent way in public debates and in transparent decision making.

Conclusion

In this chapter I have discussed several types of responsibility for food and life scientists in the new constellations, where the boundaries between sciences, advising, managing information, prescribing, and profits are becoming blurred. In the light of shifting commercial and political conditions and of changing relationships between medical and food practices, I have outlined new tasks and ethical issues. From the pragmatic point of view I have presented two central issues that are to be tackled. The first issue is that of setting research priorities and their relation to the public at large. Considering that the public has an eminent interest in the new life science developments but simultaneously does not understand them, the public responsibility of life scientists should be cultivated by training them in making rational conjectures about future possibilities of the combination of scientific development and social change. This is difficult, because scientists should refrain from publishing immature or non-validated results.

The second issue is even more complicated. Yes, we need certain Chinese walls, not Berlin Walls, between the role of research role for universities, governments, or industries, of public consultation, and of advising industry or patients/consumers. The new tasks of the life scientists require more than ever that there is total clarity in whose interest they conduct research, construct and manage data banks, prescribe foods, and so on. According to pragmatic view of ethics, the trust of consumers in the newly establishing life science network depends upon the question: will consumers have a say in future in what they consume? The public responsibility of life scientists should be reconstructed with that question in mind.

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ABOUT THE AUTHOR

Michiel Korthals is Professor and Chair of Applied Philosophy at Wageningen University. He studied Philosophy, Sociology, German and Anthropology at the University of Amsterdam and the Karl Ruprecht Universität in Heidelberg. His academic interests include deliberative theories, American Pragmatism and bioethics, and ethical problems concerning food production, nature and environmental issues. Korthals is an ethics advisor to several national and international organizations (Dutch Ministry, Genome Canada, FAO) and has been invited by internationally well-known universities to give lectures on Biotechnology, Food and Ethics (like Michigan State University, Purdue University, Missouri University, Lancaster University, Princeton University, Guelph University and Hebrew University, Israel). His books include: Filosofie en intersubjectiviteit [Philosophy and Intersubjectivity, 1983], Duurzaamheid en democratie [Sustainability and Democracy, 1995], Tussen voeding en medicijn [Between Food and Medicine, 2001], Voor het eten (2002); Before Dinner: Philosophy and Ethics of Food (Springer, 2004). He is editor of Wetenschapsleer [Philosophy of Science, 1989] and co-editor of Philosophy of Development (1996) and Pragmatist Ethics for a Technological Culture (2002). Korthals is member of the editorial board of leading journals and scientific committees, editor-in-chief of the International Library of Environmental, Agricultural and Food Ethics.

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